

Employment Report

September 2016

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Techniques to Analyze Employment Levels

Over the Month

- Numeric/Percentage Change
- Issue: Large influence of seasonal factors
- Main Use: Compare changes to previous years in the same month – comparison of previous years point-in-time estimates

Over the Year

- Numeric/Percentage Change
- Issue: Less influence of seasonal factors
- Main Use: Compare changes to previous time periods – long-term trends (growing, declining, accelerating, or decelerating)

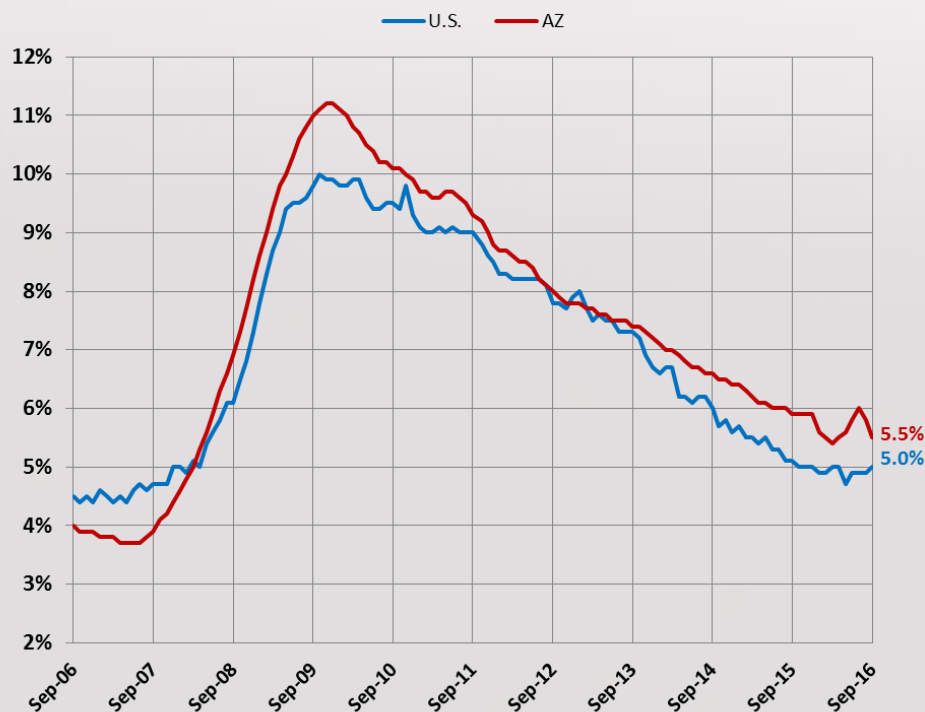
Over-the-Month Highlights

- AZ unemployment rate (SA) decreased from 5.8% to 5.5%; US unemployment rate (SA) increased to 5.0%
- Arizona gained 32,700 Nonfarm jobs (1.2%), more than the post-recessionary ('10-'15) average gain of 25,700 jobs
- The Private Sector gained 3,800 jobs (0.2%)
- Four of the eleven major sectors added jobs
- Six of the major sectors reported losses
- One of the major sectors reported neither losses nor gains
- Government recorded the largest job gain of 28,900 jobs
- Manufacturing recorded the largest loss with -1,200 jobs
- August Nonfarm employment gains were revised upward from 29,600 to 33,500 jobs

Over-the-Year Highlights

- Arizona added 61,800 Nonfarm jobs (2.3%)
- Private Sector added 61,900 jobs (2.8%)
- Seven major sectors added jobs
- Four major sectors reported losses
 - Other Services; Manufacturing; Natural Resources and Mining; Government
- Largest gains were recorded in Education and Health Services (18,700 jobs)
- Largest losses were recorded in Other Services (-1,200 jobs)

Arizona & U.S. Unemployment Rate Seasonally Adjusted



LAUS - Seasonally Adjusted

	<u>Labor Force</u>	<u>Employment</u>	<u>Unemployment</u>	
	Level	Level	Level	Rate
Sep-2015	3,151,273	2,964,605	186,668	5.9
Oct-2015	3,157,151	2,970,904	186,247	5.9
Nov-2015	3,162,525	2,976,666	185,859	5.9
Dec-2015	3,167,258	2,981,717	185,541	5.9
Jan-2016	3,187,561	3,008,409	179,152	5.6
Feb-2016	3,212,514	3,036,288	176,226	5.5
Mar-2016	3,233,768	3,060,685	173,083	5.4
Apr-2016	3,244,757	3,067,876	176,881	5.5
May-2016	3,247,280	3,066,142	181,138	5.6
Jun-2016	3,236,807	3,049,537	187,270	5.8
Jul-2016	3,223,810	3,031,608	192,202	6.0
Aug-2016	3,213,513	3,026,554	186,959	5.8
Sep-2016	3,222,169	3,043,379	178,790	5.5
OTM Change	8,656	16,825	-8,169	-0.3
OTY Change	70,896	78,774	-7,878	-0.4

Source: Office of Economic Opportunity in collaboration with the US Dept. of Labor's Bureau of Labor Statistics;
Local Area Unemployment Statistics

Total Arizona Unemployment Claimants in September



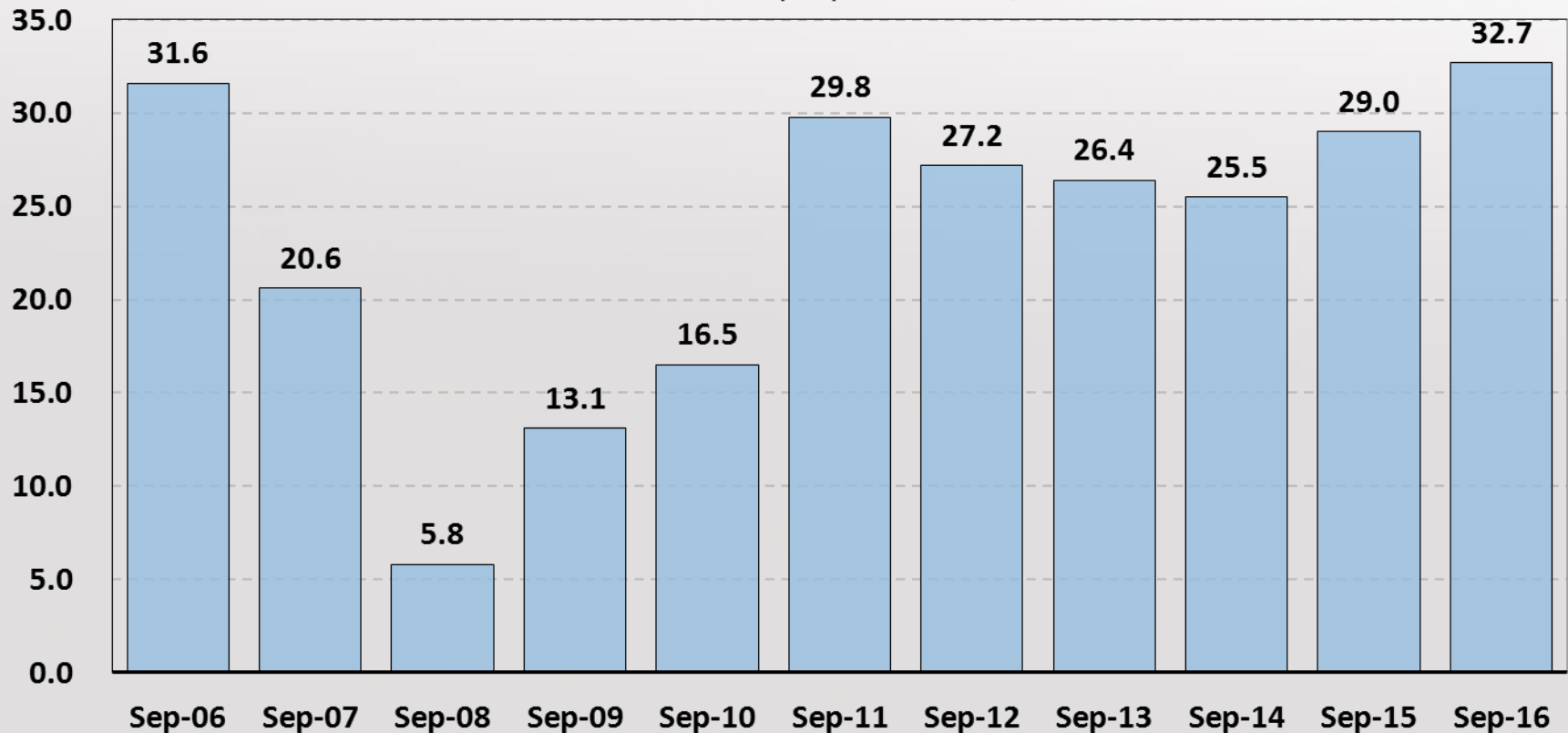
Arizona Initial Claims for Unemployment in September



Total Nonfarm Employment

Over-The-Month Employment Gain/Loss

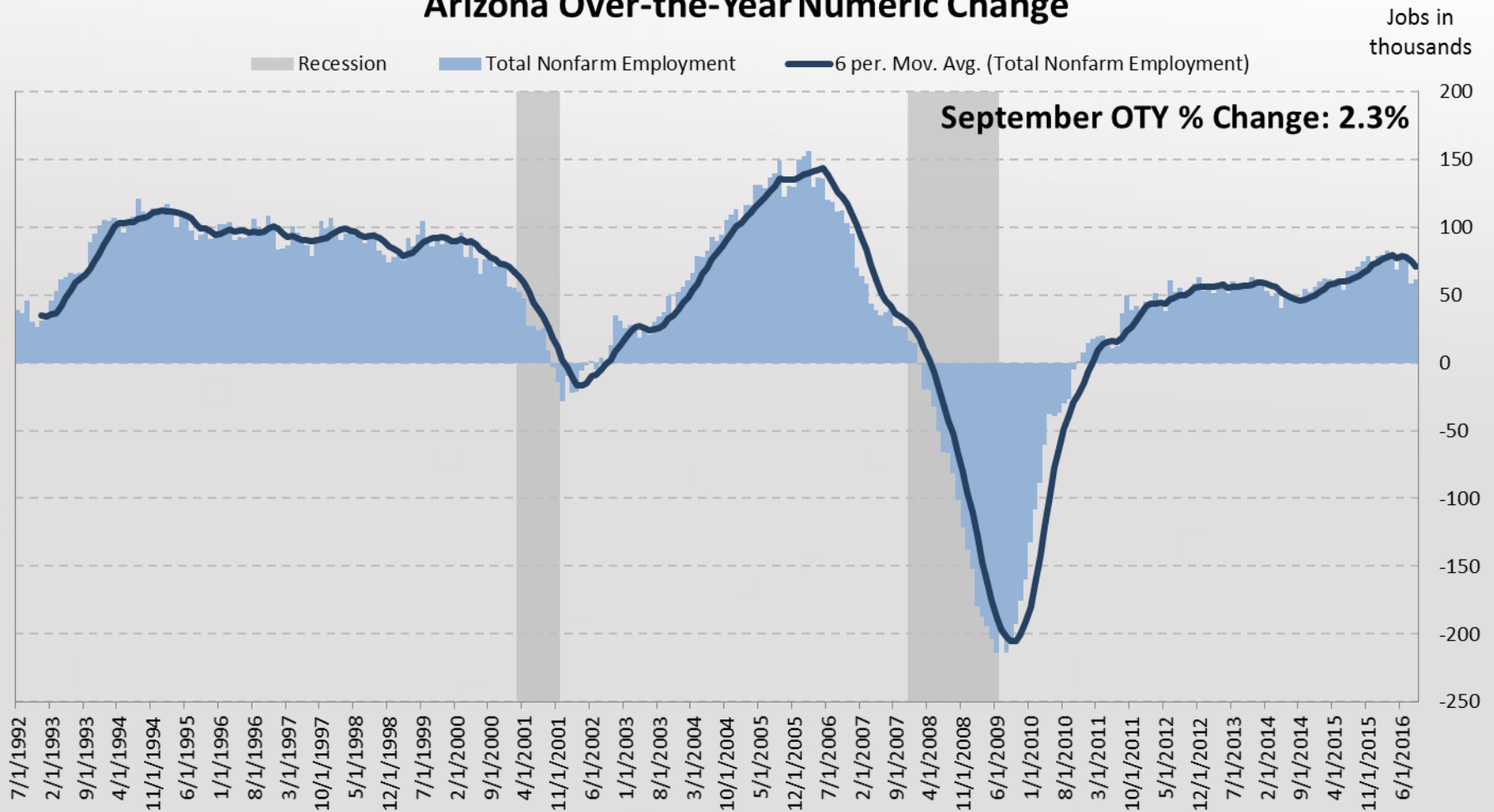
in thousands



Post-Recession Average ('10-'15): 25,700 Jobs or 1.0%
Historic 10-Year Average ('06-'15): 22,600 Jobs or 0.9%

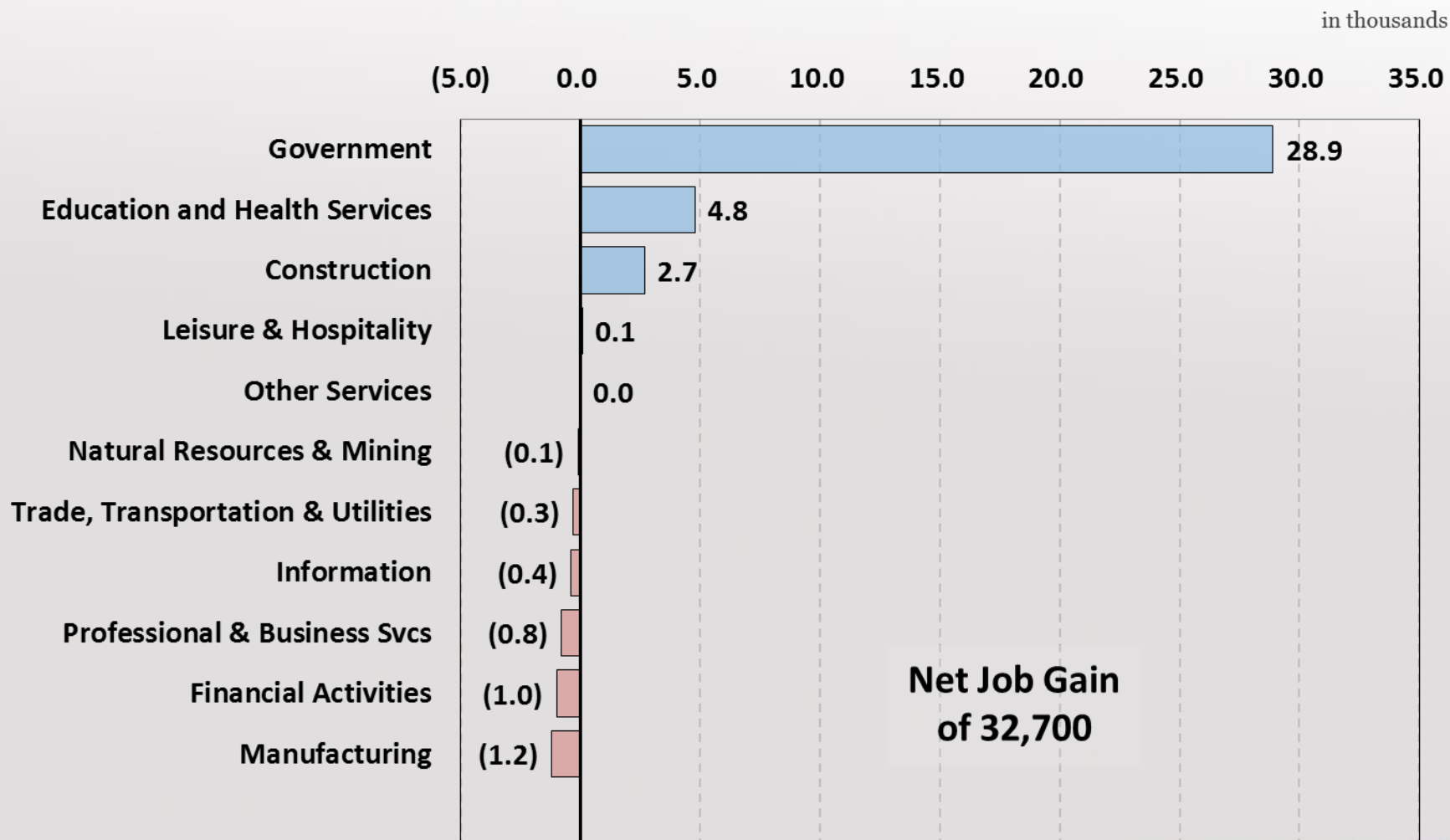
Source: Office of Economic Opportunity in collaboration with the US Dept. of Labor's Bureau of Labor Statistics;
 Current Employment Statistics

Arizona Over-the-Year Numeric Change



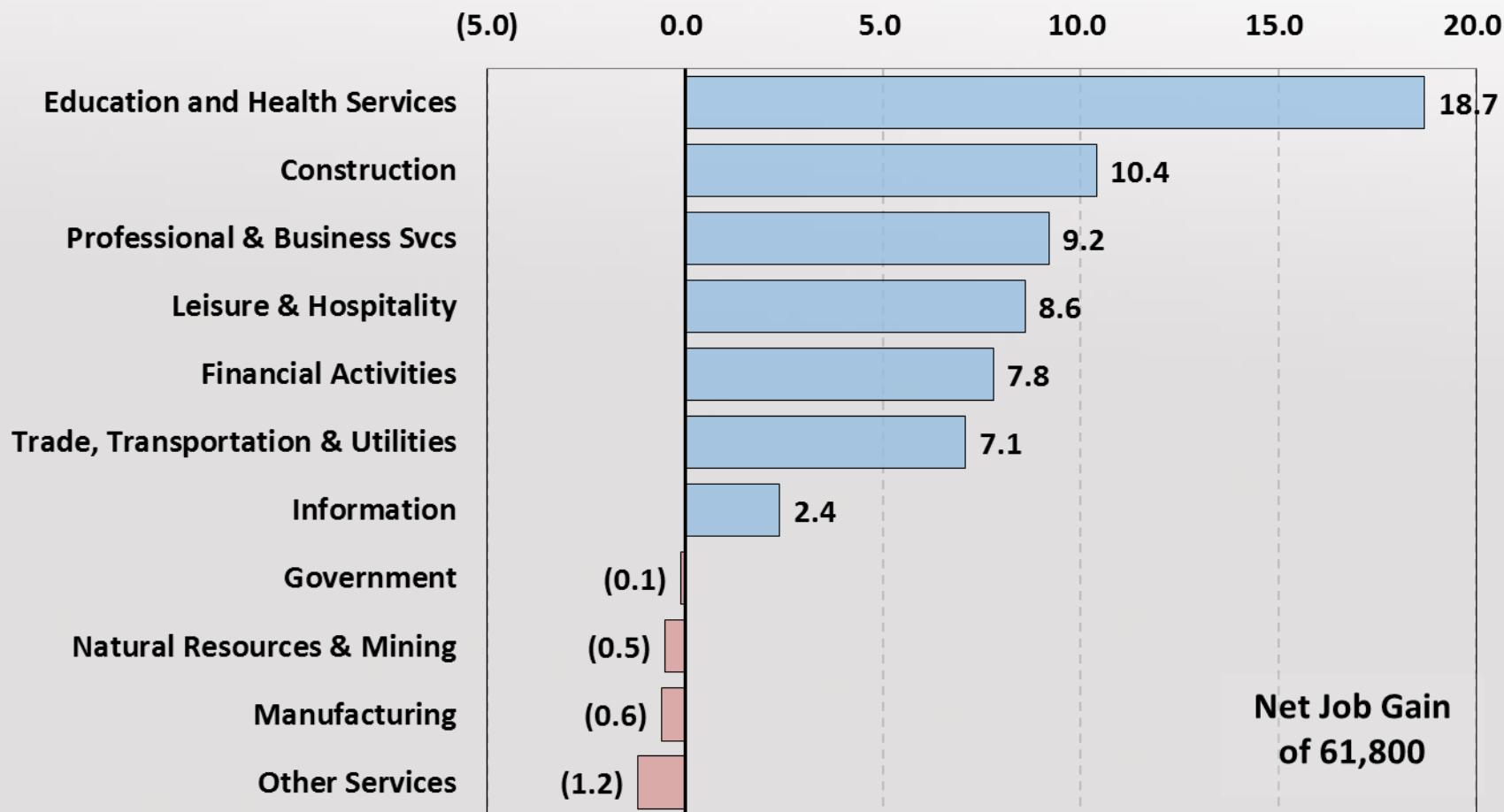
Source: Produced by the Arizona Office of Economic Opportunity in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics

Arizona Over-the-Month Job Gain/Loss by Sector

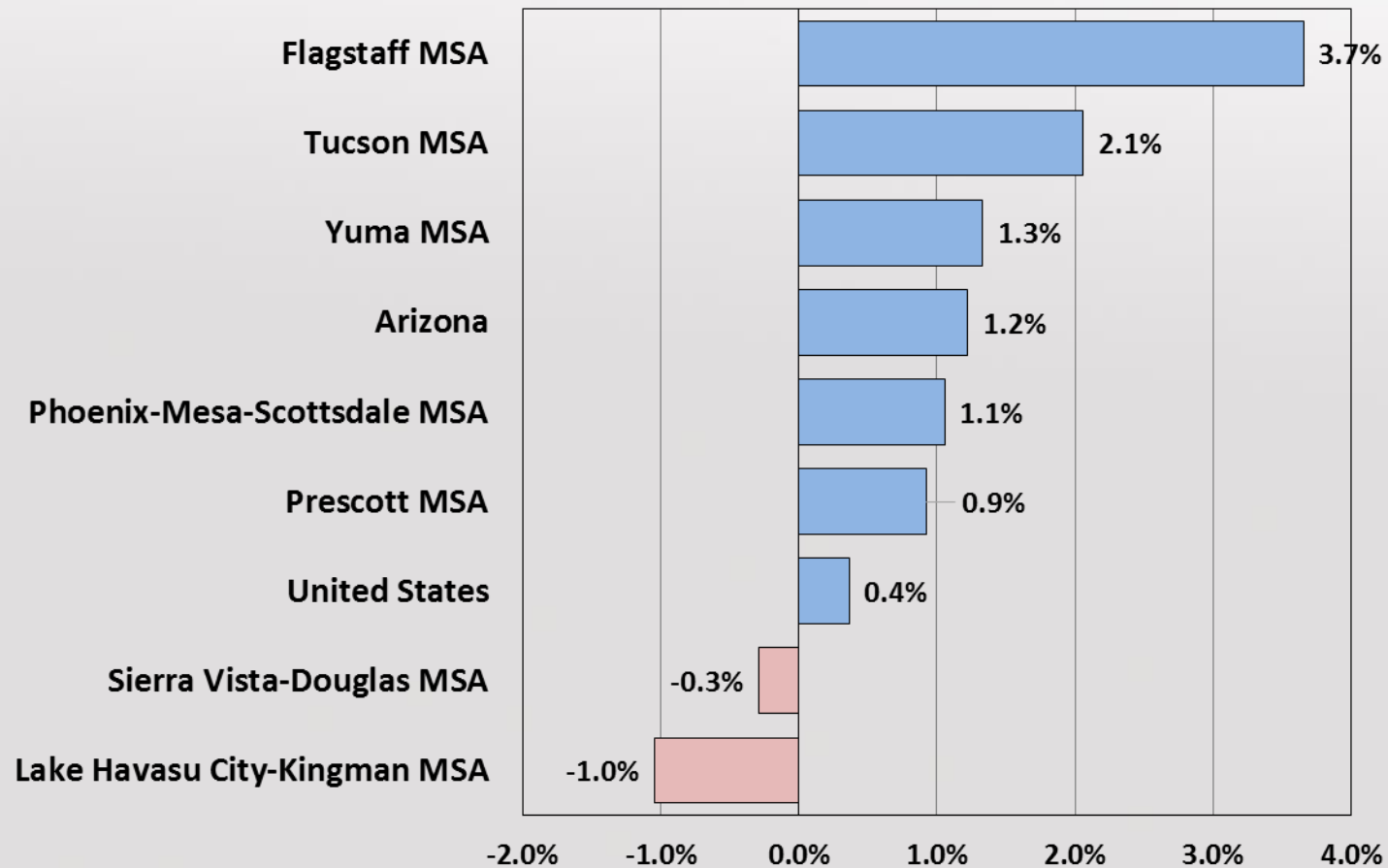


Arizona Over-the-Year Job Gain/Loss by Sector

in thousands

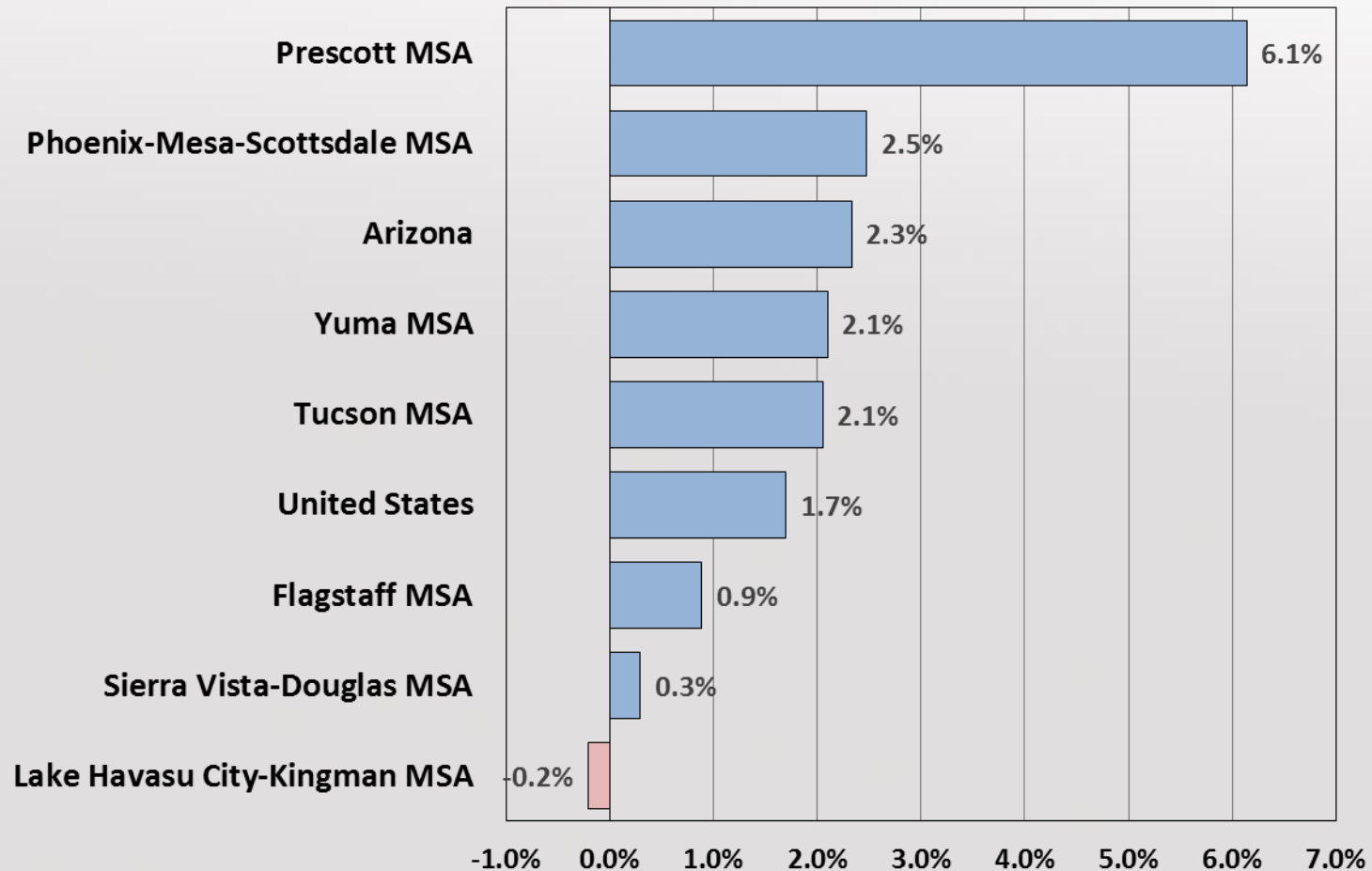


Total Nonfarm Employment Over-the-Month Percentage Gain/Loss by Region



Source: Office of Economic Opportunity in collaboration with the US Dept. of Labor's Bureau of Labor Statistics;
Current Employment Statistics

Total Nonfarm Employment Over-the-Year Percentage Gain/Loss by Region

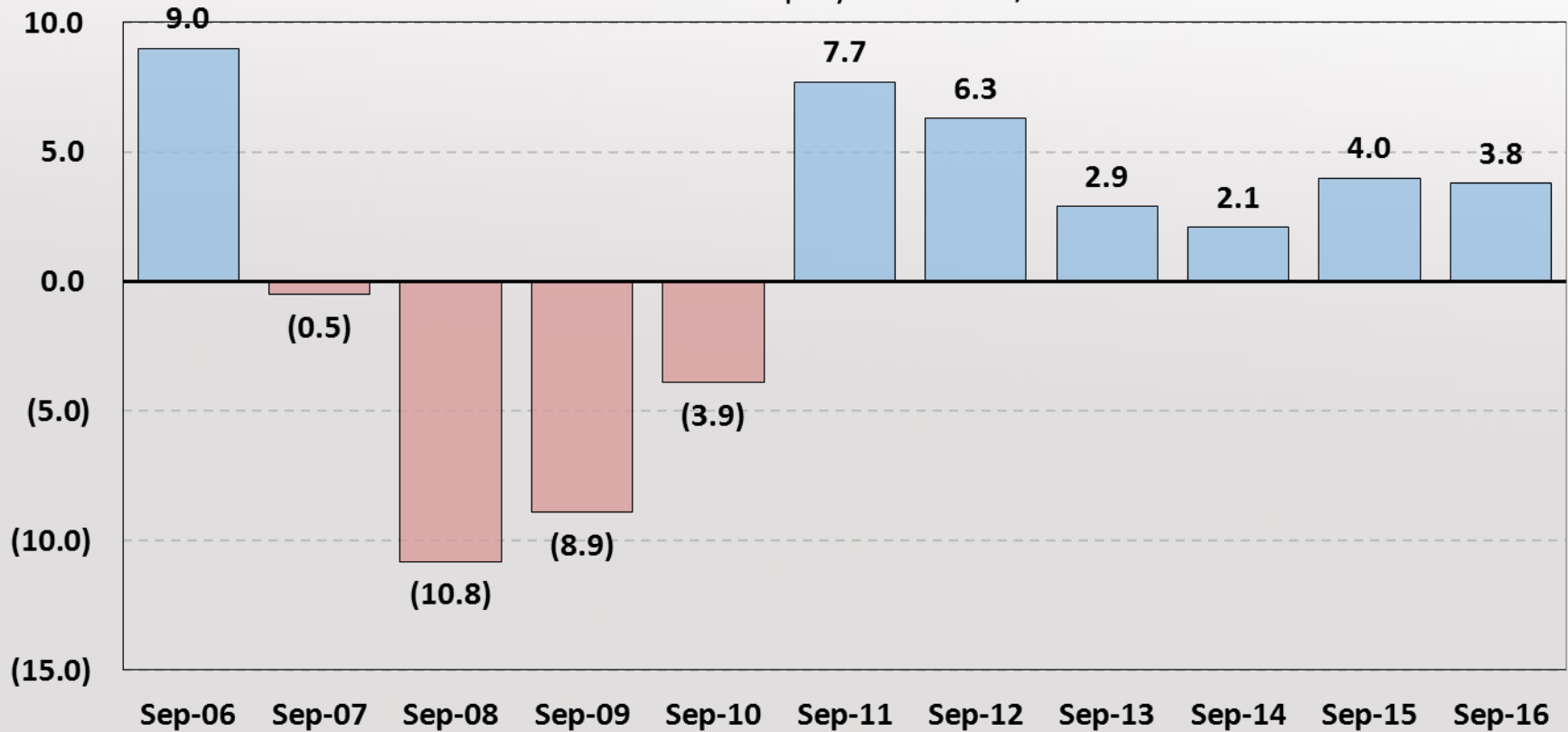


Source: Office of Economic Opportunity in collaboration with the US Dept. of Labor's Bureau of Labor Statistics;
Current Employment Statistics

Private Sector

Over-The-Month Employment Gain/Loss

in thousands

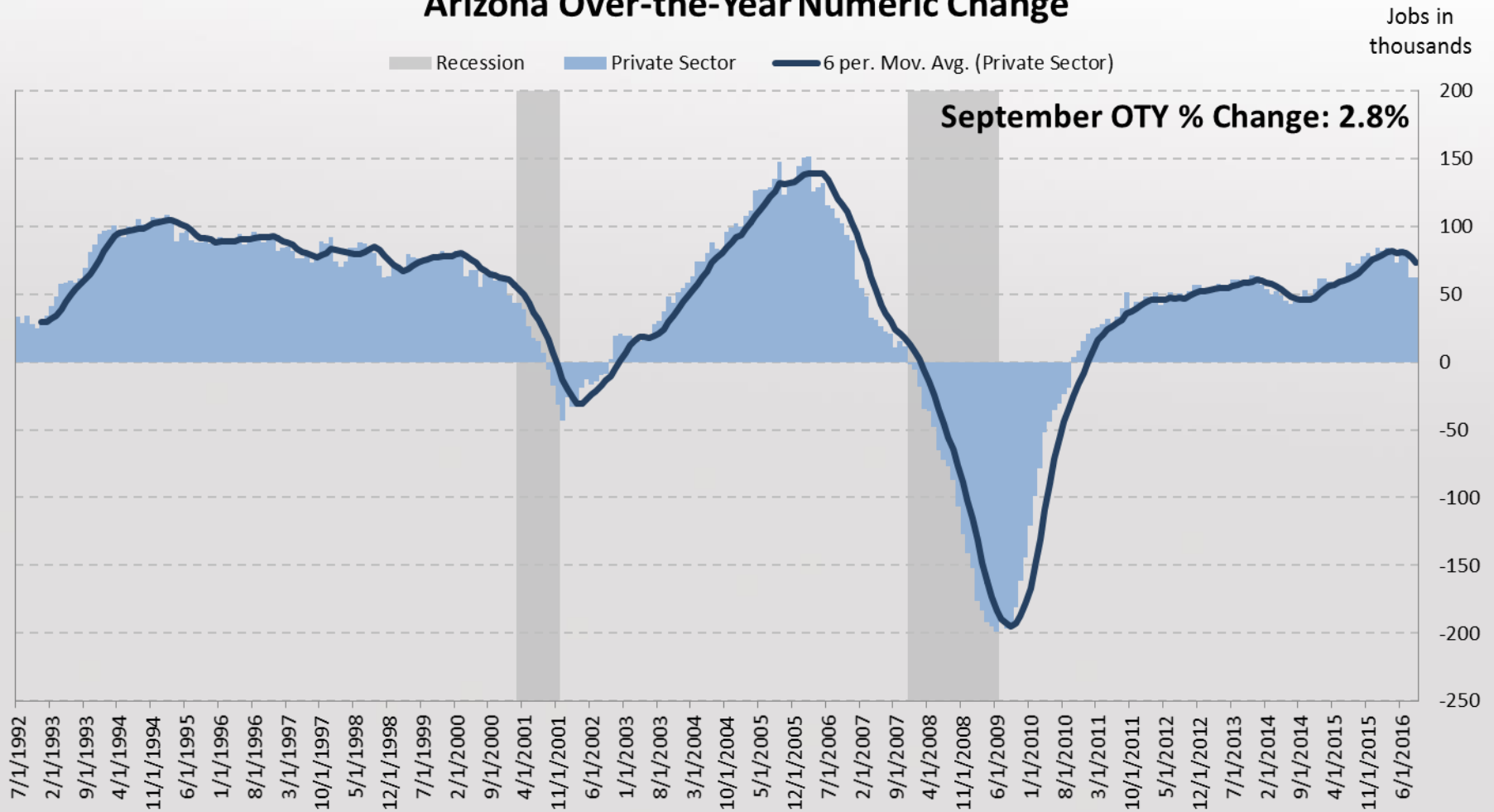


Post-Recession Average ('10-'15): 3,200 Jobs or 0.2%

Historic 10-Year Average ('06-'15): 800 Jobs or 0.0%

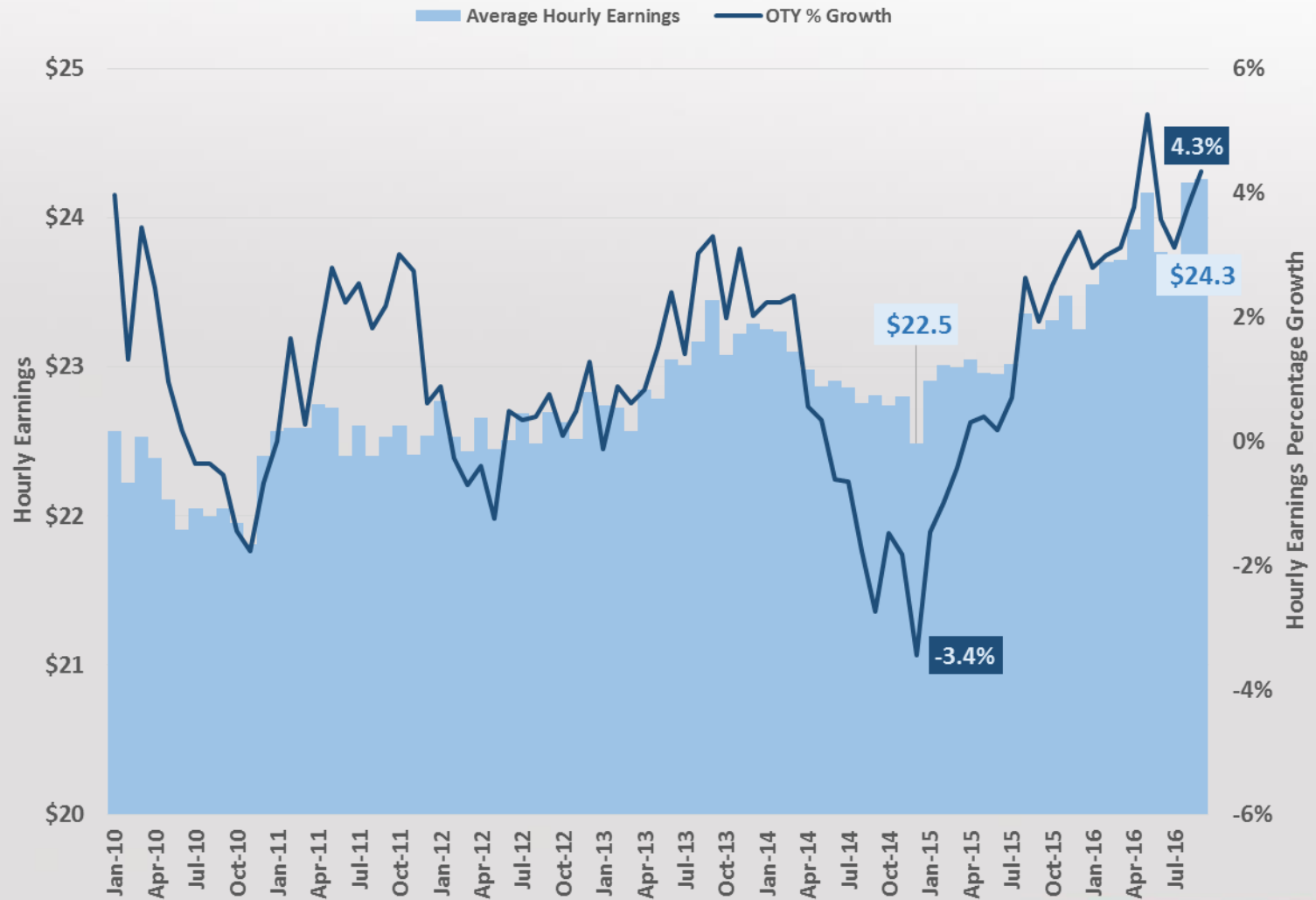
Source: Office of Economic Opportunity in collaboration with the US Dept. of Labor's Bureau of Labor Statistics;
Current Employment Statistics

Arizona Over-the-Year Numeric Change



Source: Produced by the Arizona Office of Economic Opportunity in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics

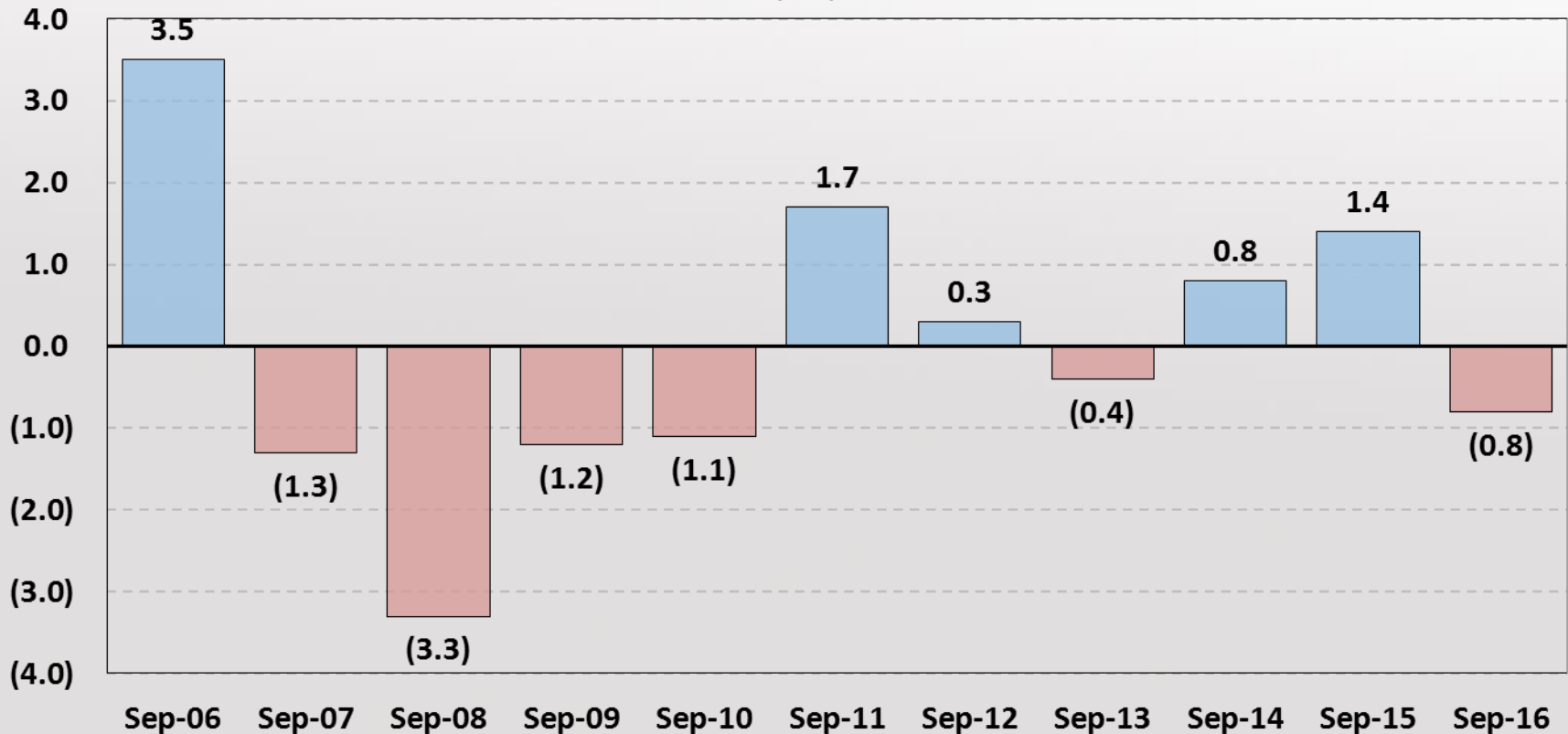
Arizona Over-the-Year Average Hourly Earnings- Private Sector



Professional & Business Svcs

Over-The-Month Employment Gain/Loss

in thousands

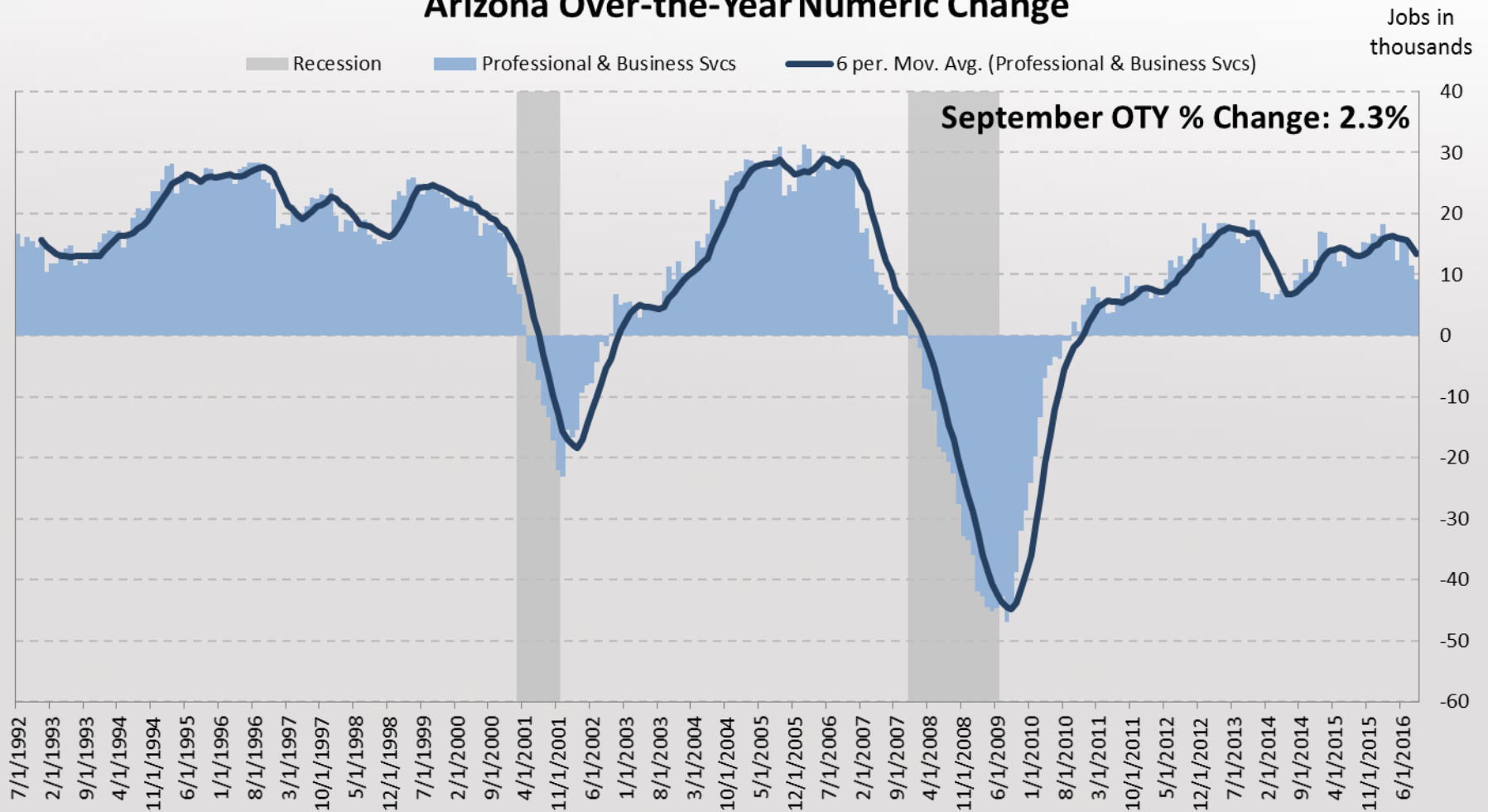


Post-Recession Average ('10-'15): 500 Jobs or 0.1%

Historic 10-Year Average ('06-'15): 0 Jobs or 0.0%

Source: Office of Economic Opportunity in collaboration with the US Dept. of Labor's Bureau of Labor Statistics;
Current Employment Statistics

Arizona Over-the-Year Numeric Change

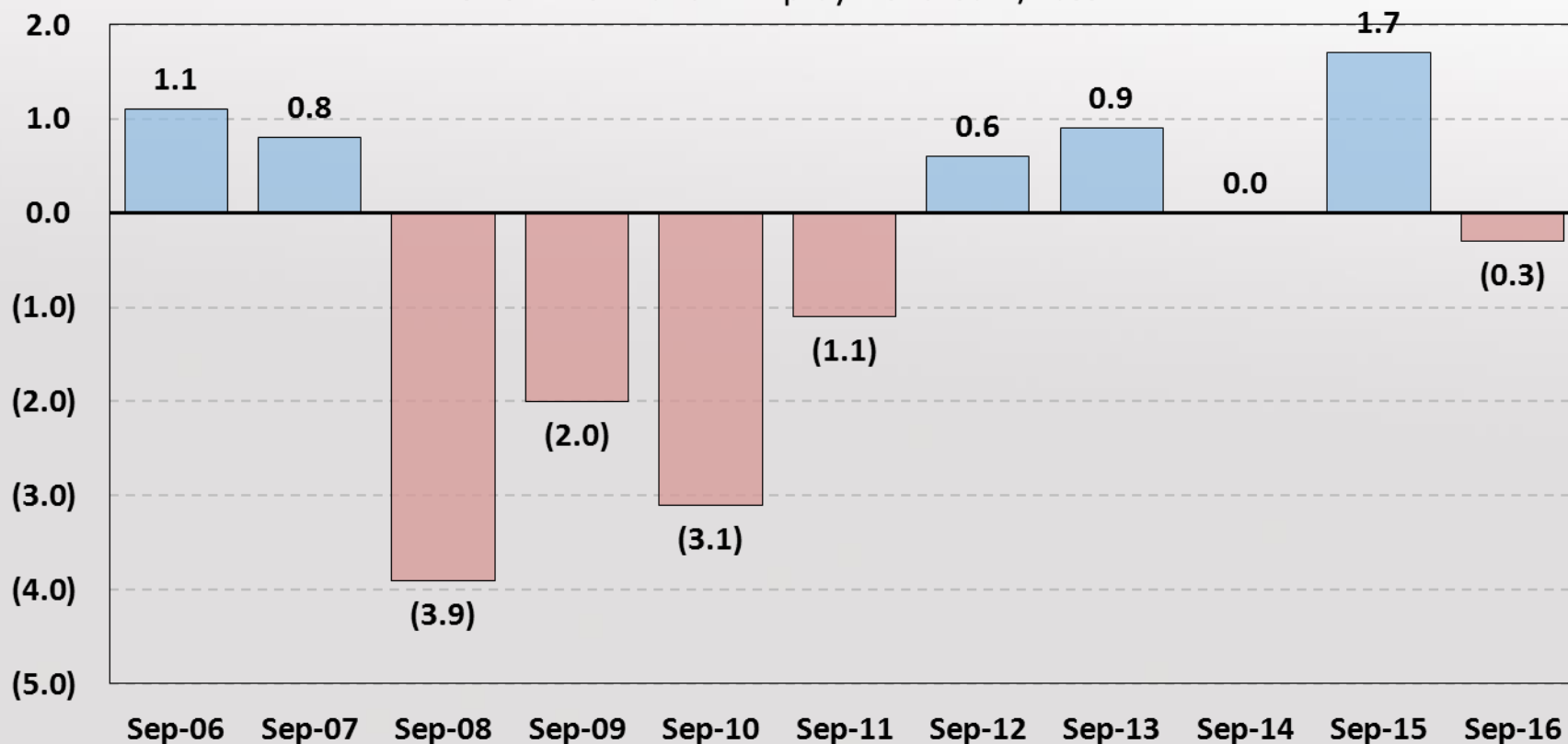


Source: Produced by the Arizona Office of Economic Opportunity in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics

Trade, Transportation & Utilities

Over-The-Month Employment Gain/Loss

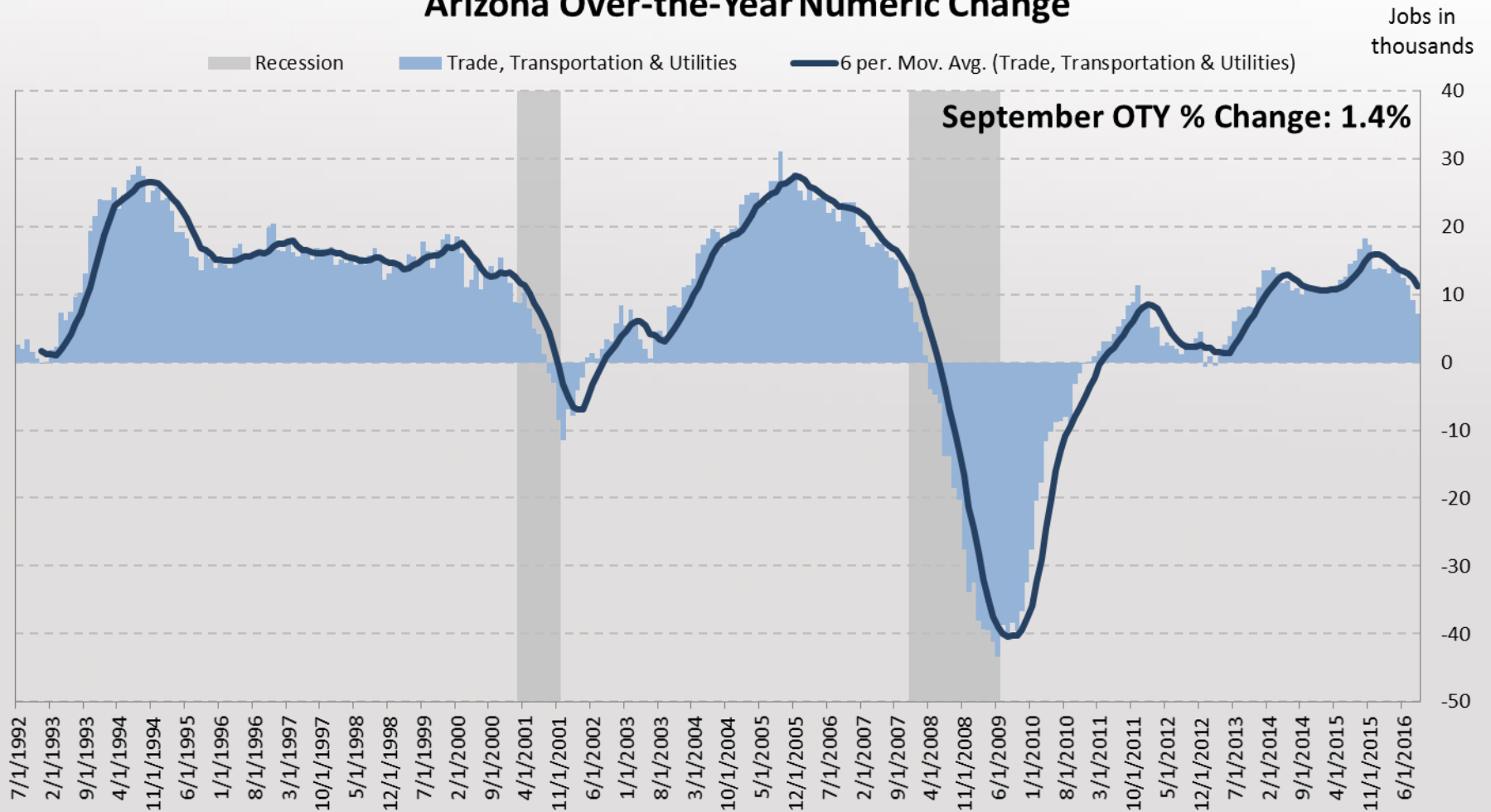
in thousands



Post-Recession Average ('10-'15): -200 Jobs or 0.0%
Historic 10-Year Average ('06-'15): -500 Jobs or -0.1%

Source: Office of Economic Opportunity in collaboration with the US Dept. of Labor's Bureau of Labor Statistics;
 Current Employment Statistics

Arizona Over-the-Year Numeric Change

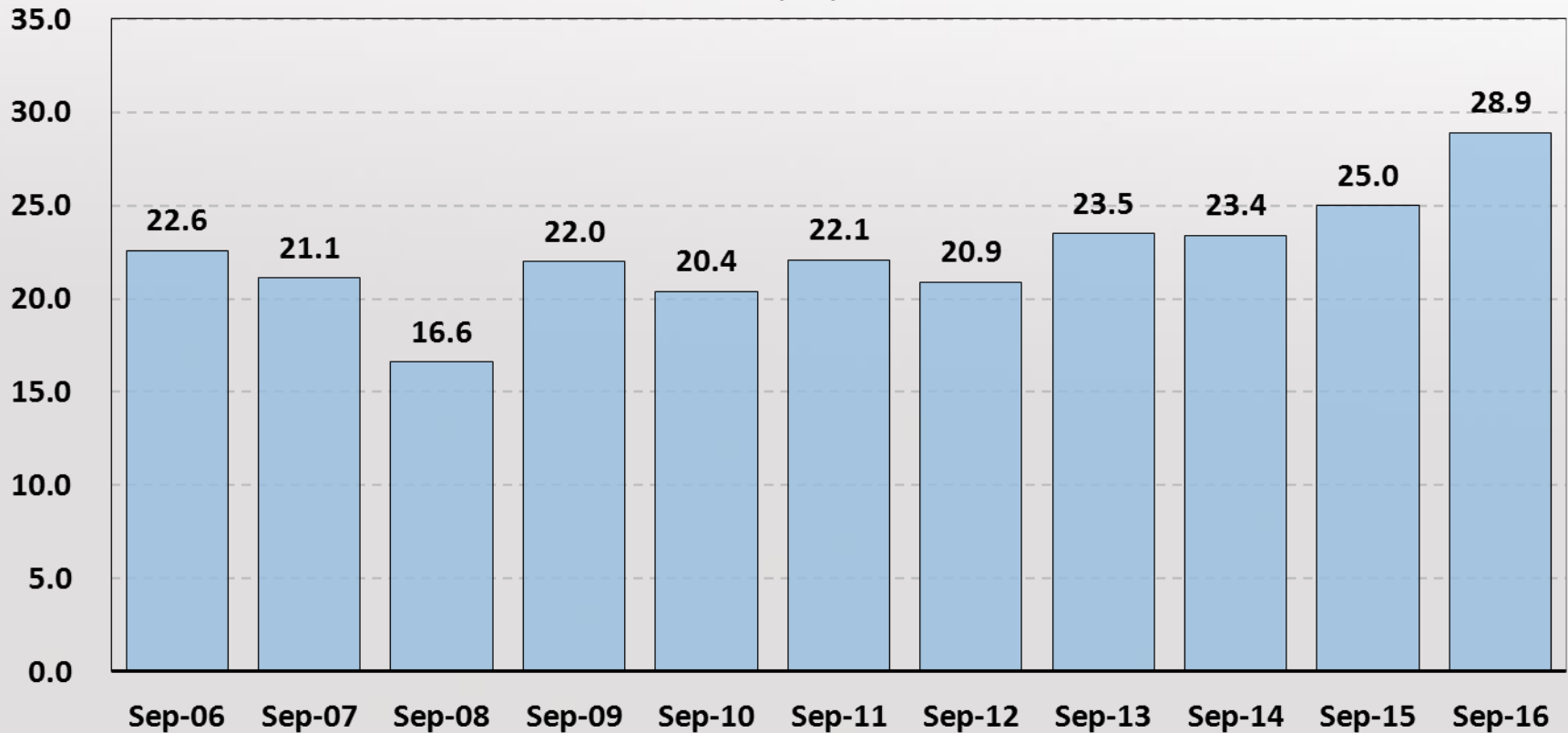


Source: Produced by the Arizona Office of Economic Opportunity in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics

Government

Over-The-Month Employment Gain/Loss

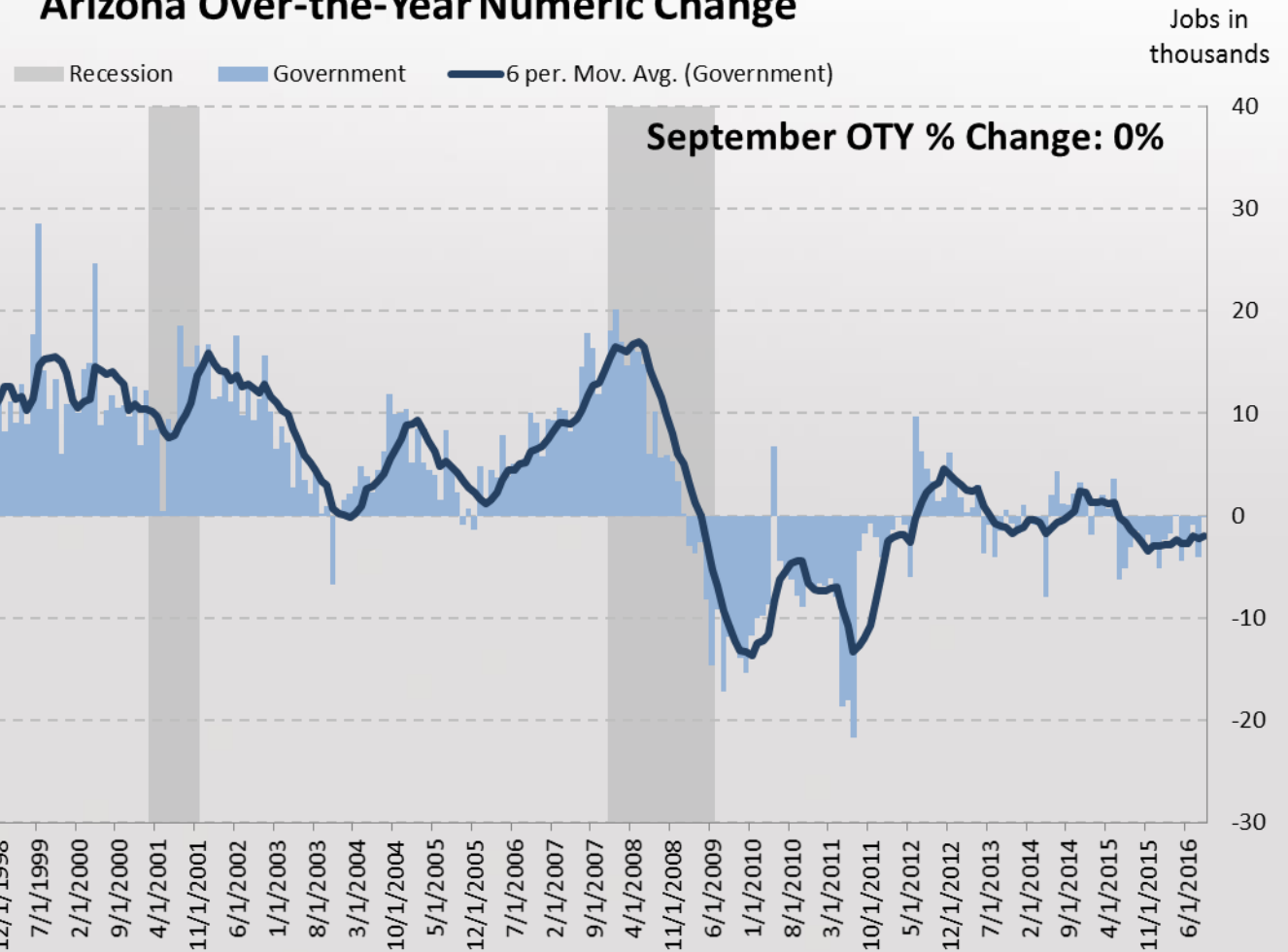
in thousands



Post-Recession Average ('10-'15): 22,600 Jobs or 5.7%
Historic 10-Year Average ('06-'15): 21,800 Jobs or 5.4%

Source: Office of Economic Opportunity in collaboration with the US Dept. of Labor's Bureau of Labor Statistics;
 Current Employment Statistics

Arizona Over-the-Year Numeric Change

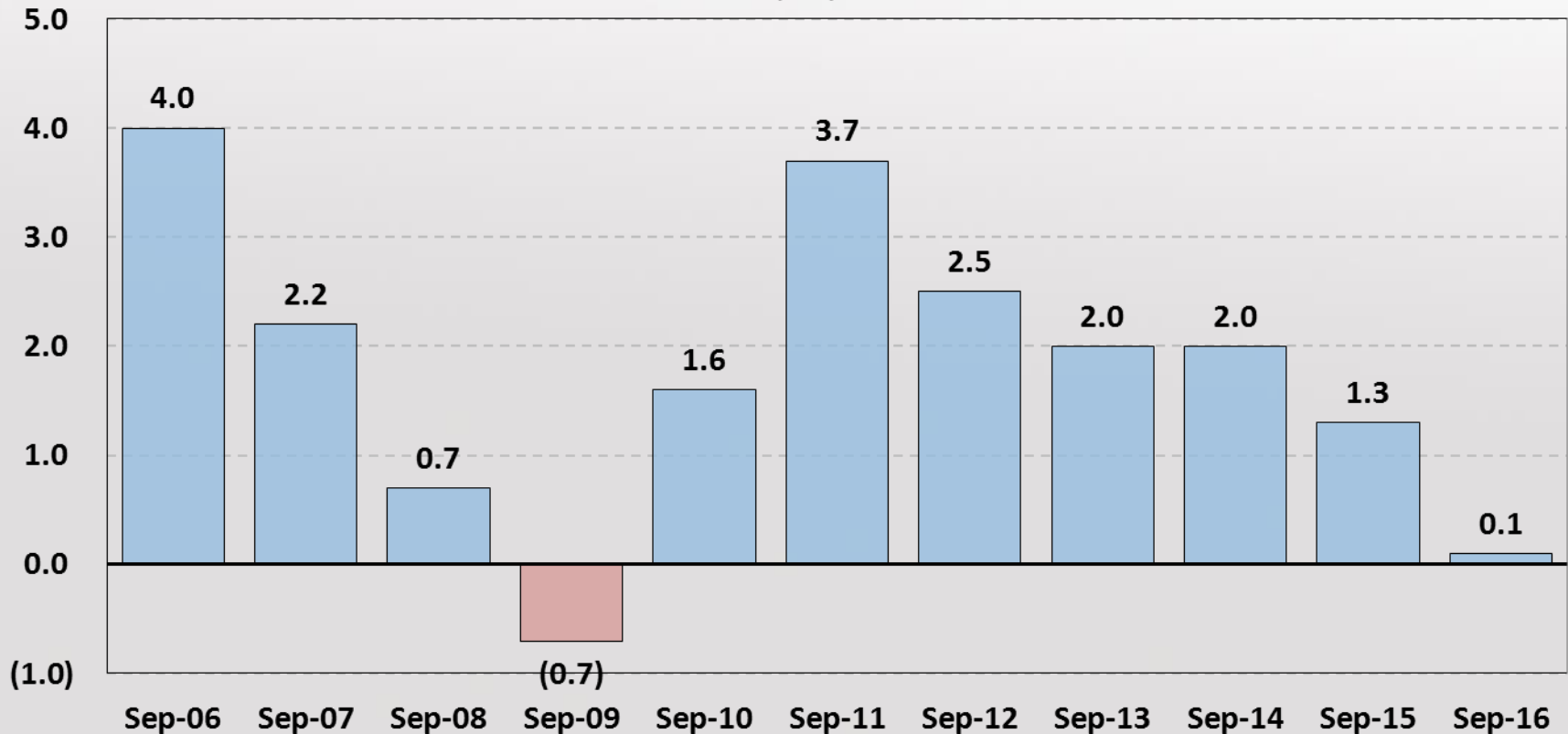


Source: Produced by the Arizona Office of Economic Opportunity in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics

Leisure & Hospitality

Over-The-Month Employment Gain/Loss

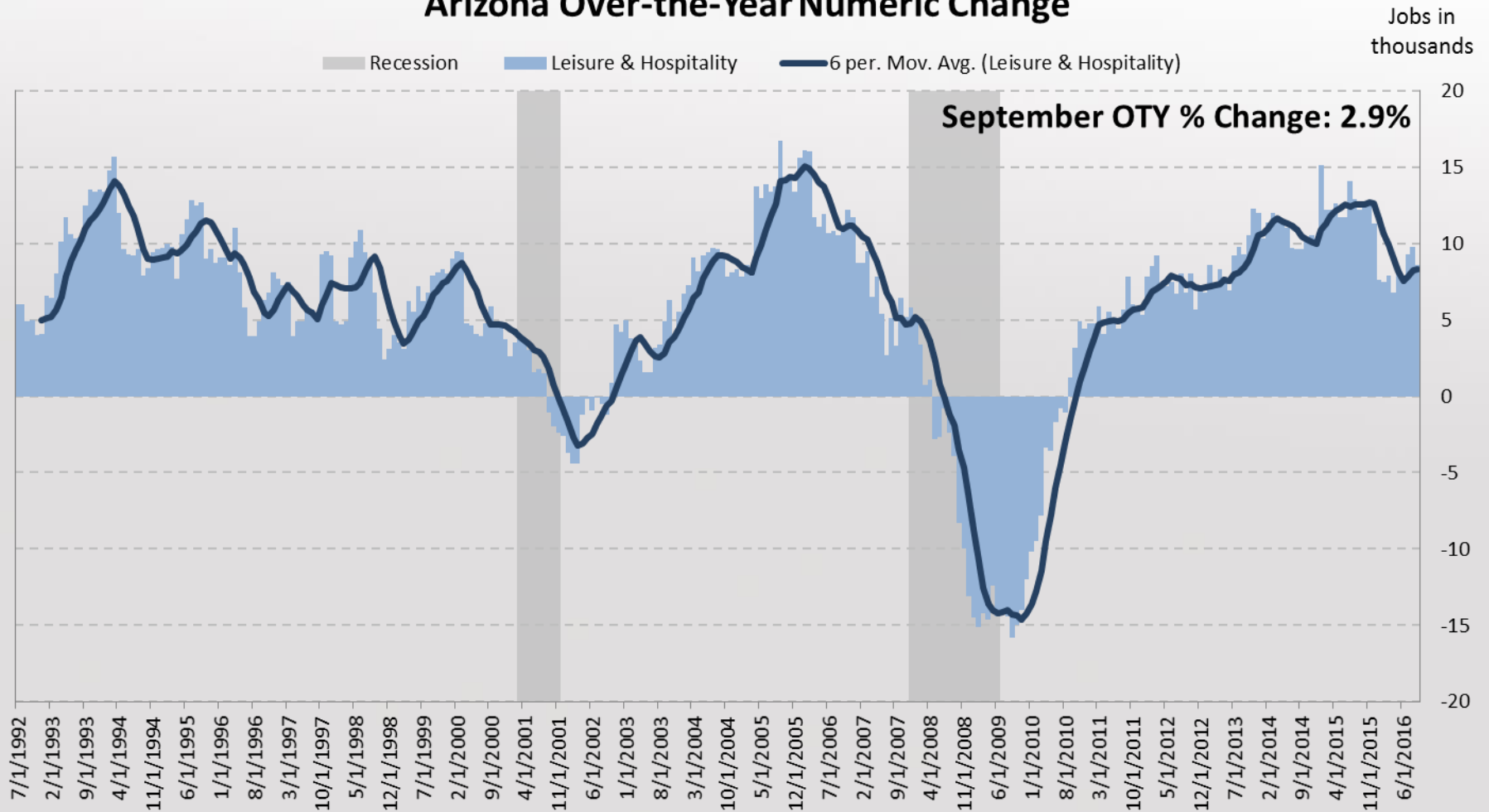
in thousands



Post-Recession Average ('10-'15): 2,200 Jobs or 0.8%
Historic 10-Year Average ('06-'15): 1,900 Jobs or 0.7%

Source: Office of Economic Opportunity in collaboration with the US Dept. of Labor's Bureau of Labor Statistics;
 Current Employment Statistics

Arizona Over-the-Year Numeric Change

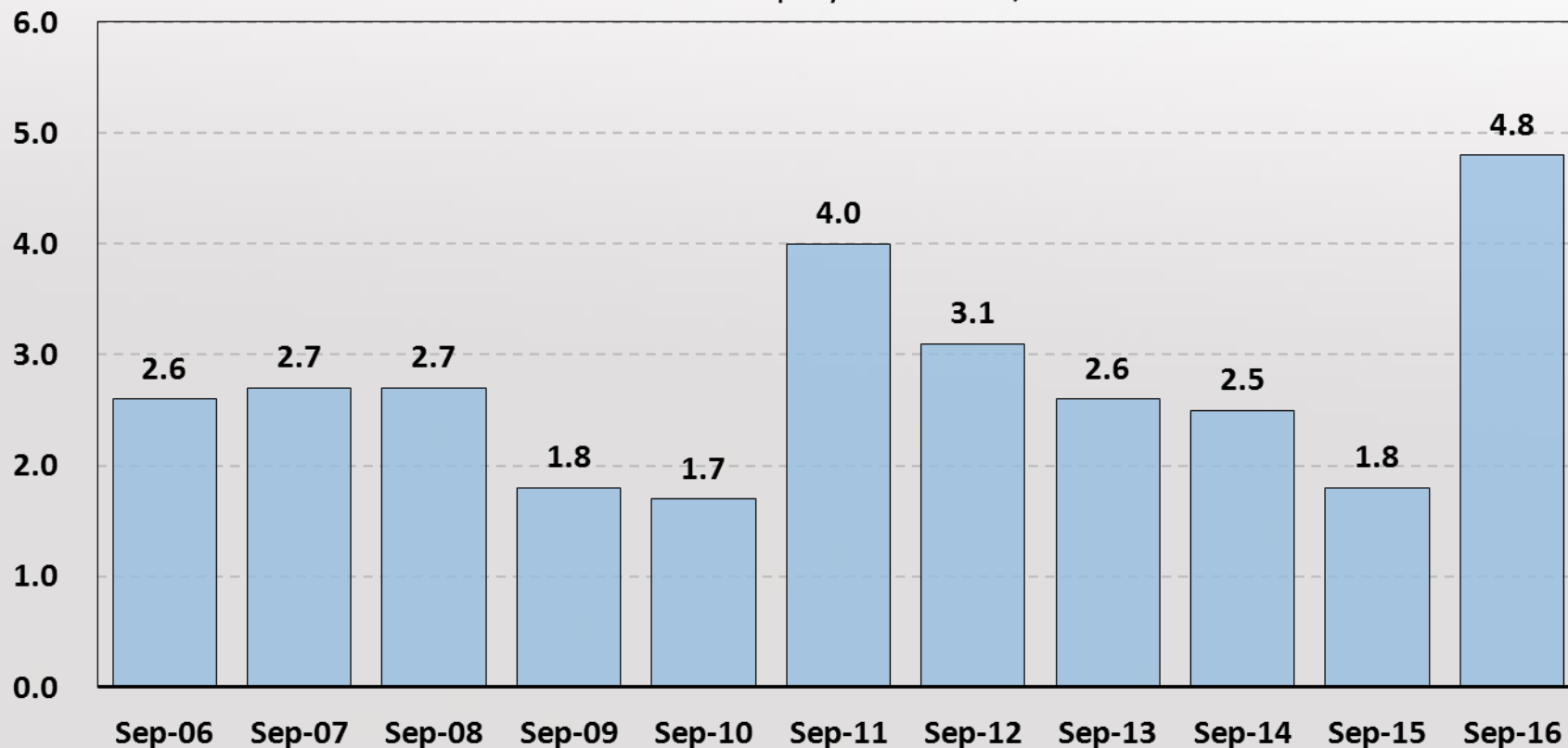


Source: Produced by the Arizona Office of Economic Opportunity in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics

Education and Health Services

Over-The-Month Employment Gain/Loss

in thousands

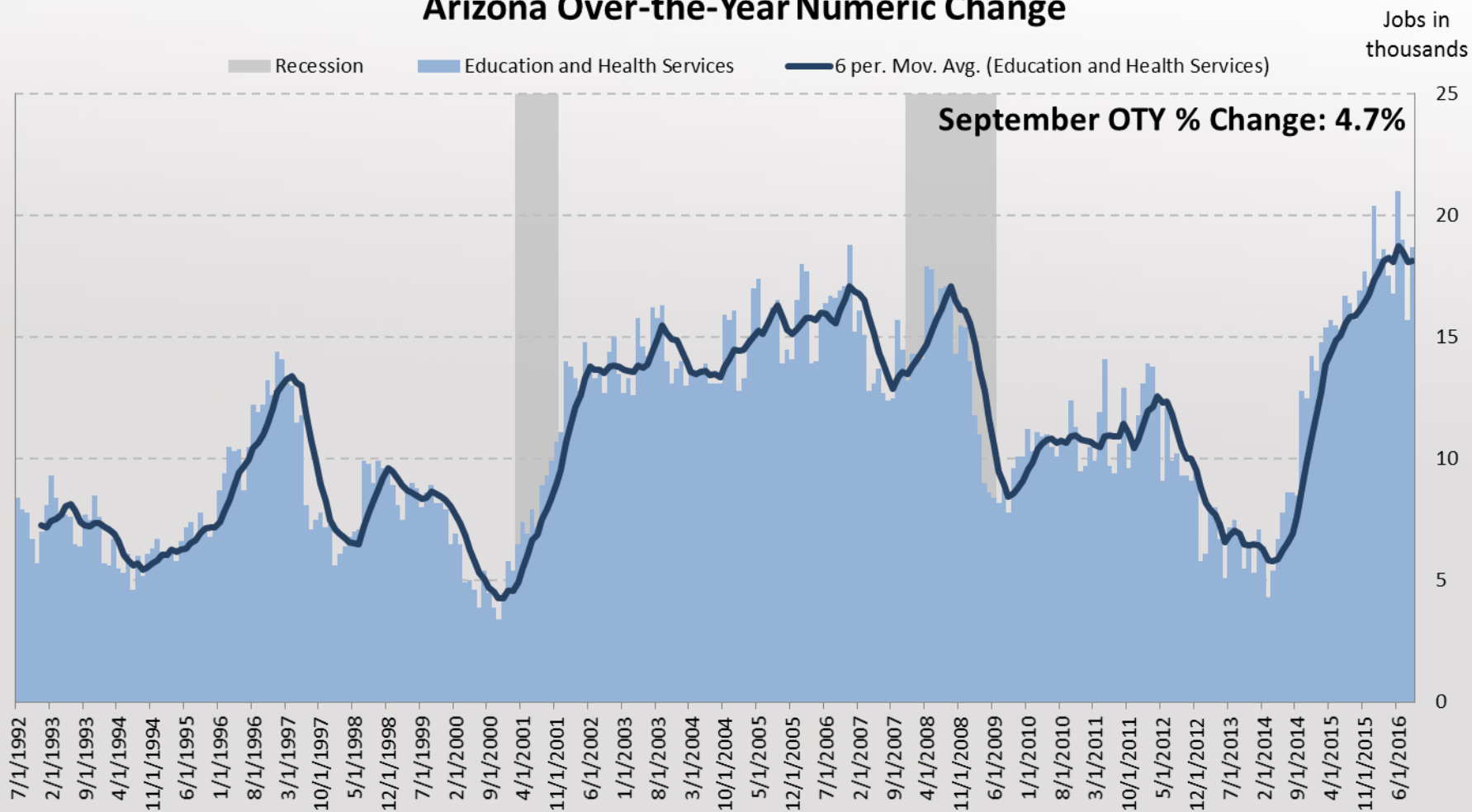


Post-Recession Average ('10-'15): 2,600 Jobs or 0.7%

Historic 10-Year Average ('06-'15): 2,600 Jobs or 0.7%

Source: Office of Economic Opportunity in collaboration with the US Dept. of Labor's Bureau of Labor Statistics;
Current Employment Statistics

Arizona Over-the-Year Numeric Change

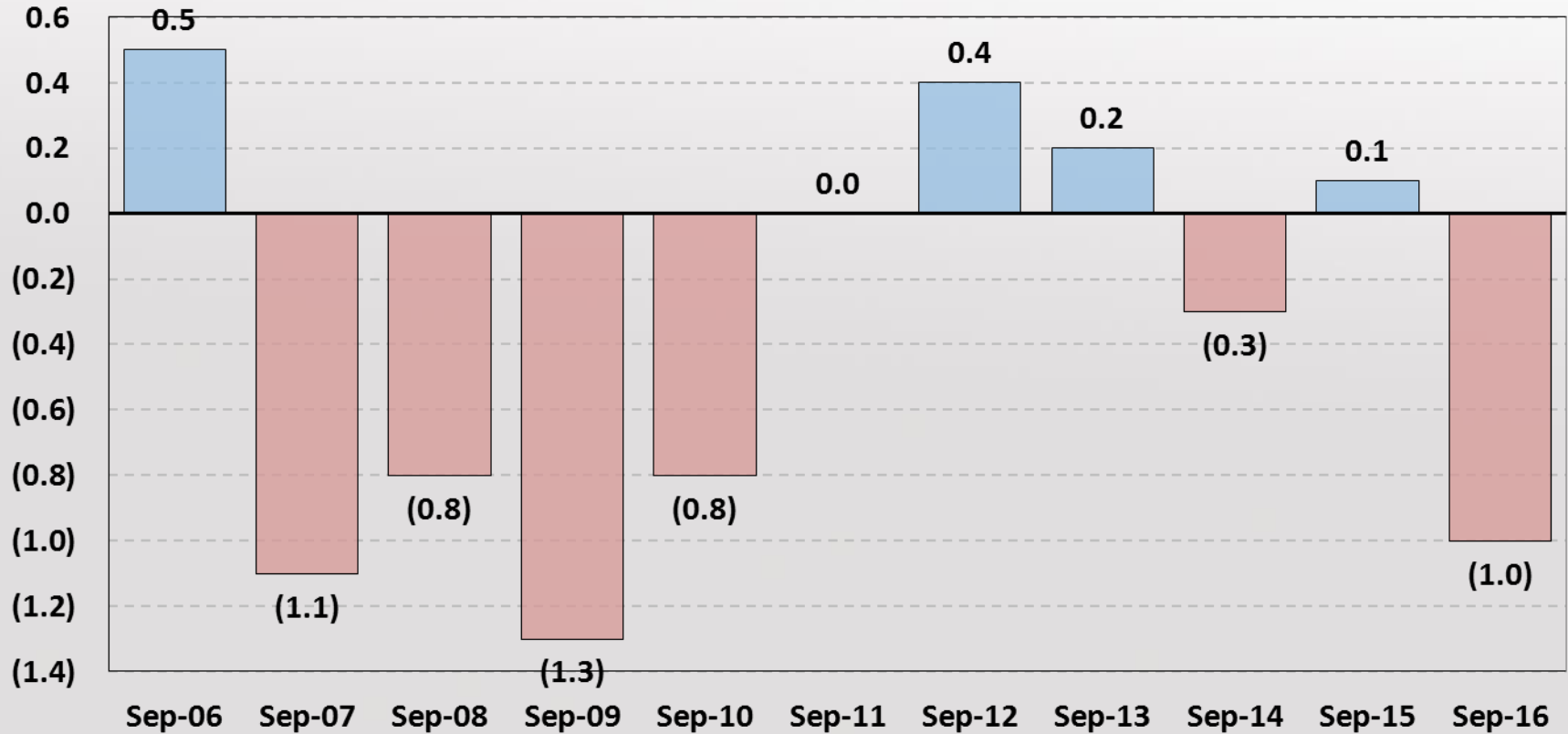


Source: Produced by the Arizona Office of Economic Opportunity in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics

Financial Activities

Over-The-Month Employment Gain/Loss

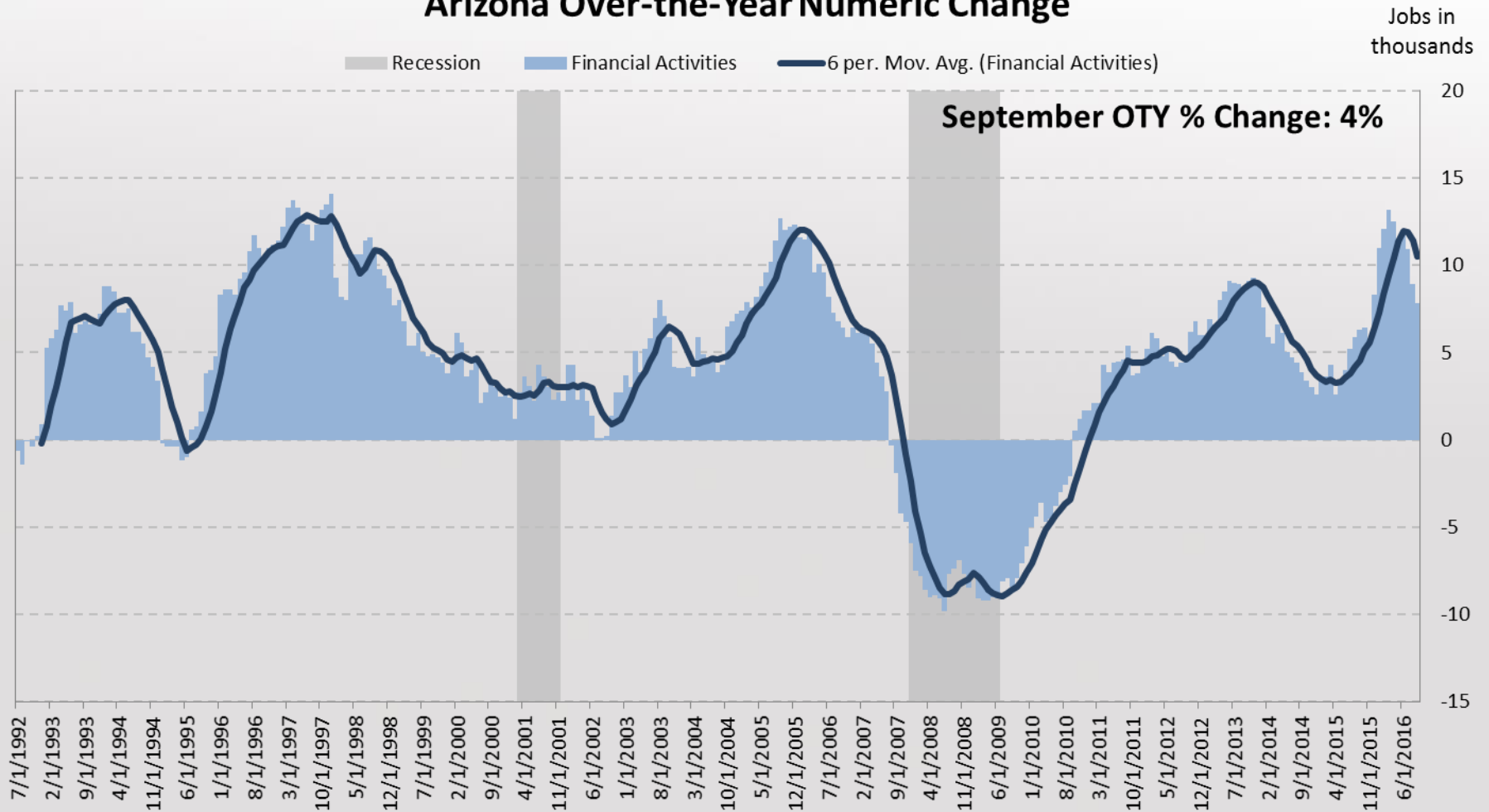
in thousands



Post-Recession Average ('10-'15): -100 Jobs or 0.0%
Historic 10-Year Average ('06-'15): -300 Jobs or -0.2%

Source: Office of Economic Opportunity in collaboration with the US Dept. of Labor's Bureau of Labor Statistics;
 Current Employment Statistics

Arizona Over-the-Year Numeric Change

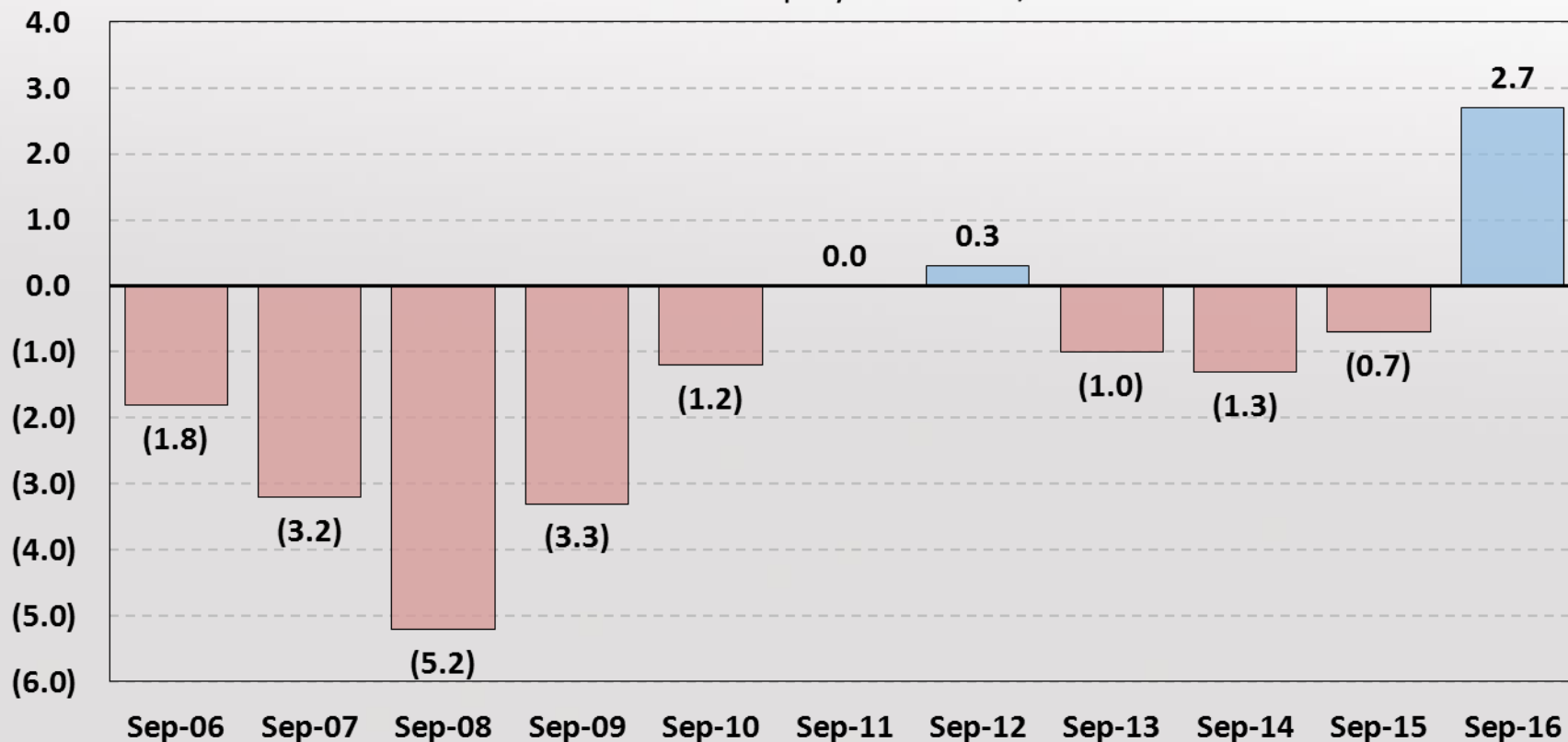


Source: Produced by the Arizona Office of Economic Opportunity in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics

Construction

Over-The-Month Employment Gain/Loss

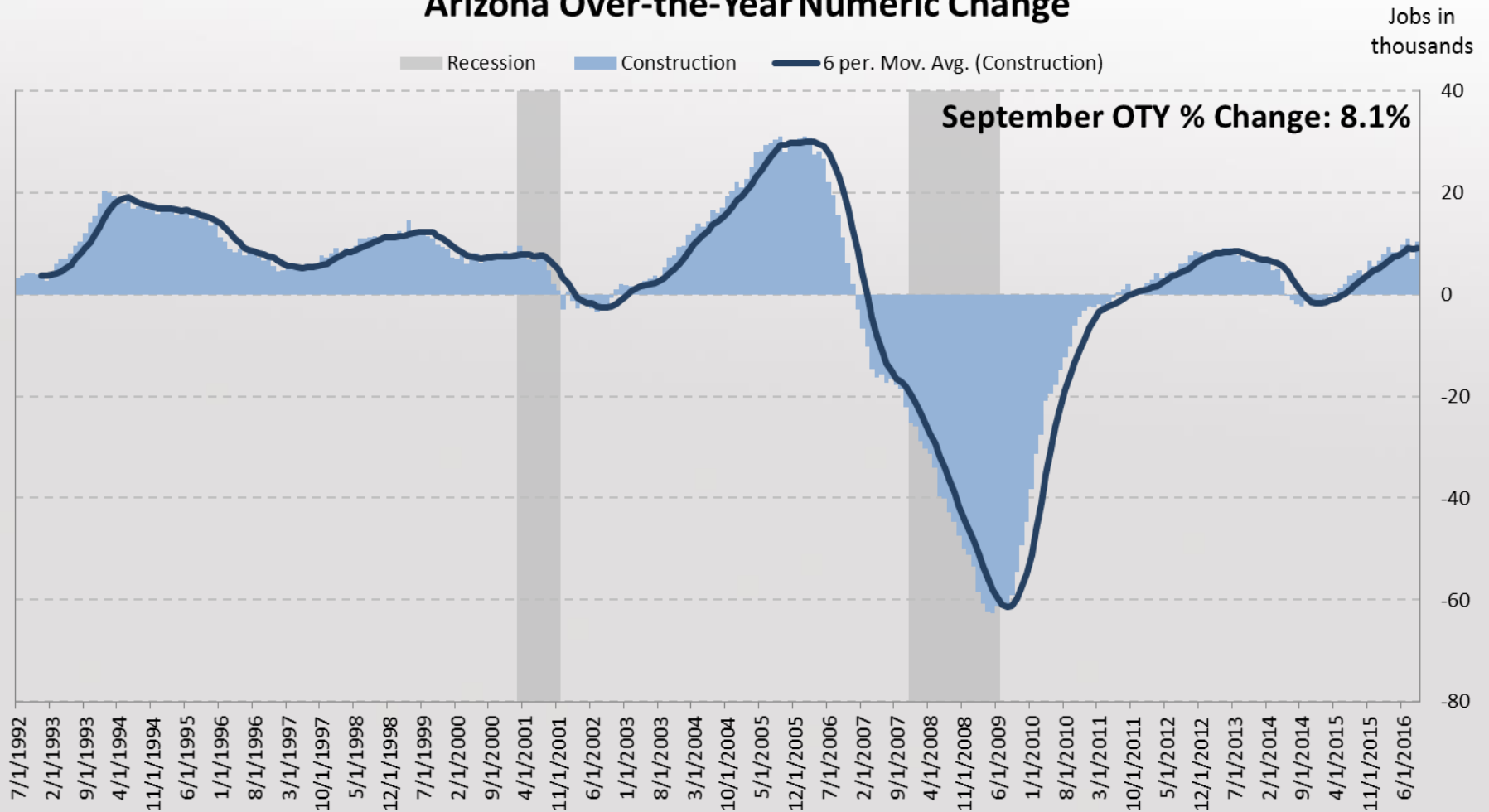
in thousands



Post-Recession Average ('10-'15): -700 Jobs or -0.5%
Historic 10-Year Average ('06-'15): -1,700 Jobs or -1.1%

Source: Office of Economic Opportunity in collaboration with the US Dept. of Labor's Bureau of Labor Statistics;
 Current Employment Statistics

Arizona Over-the-Year Numeric Change

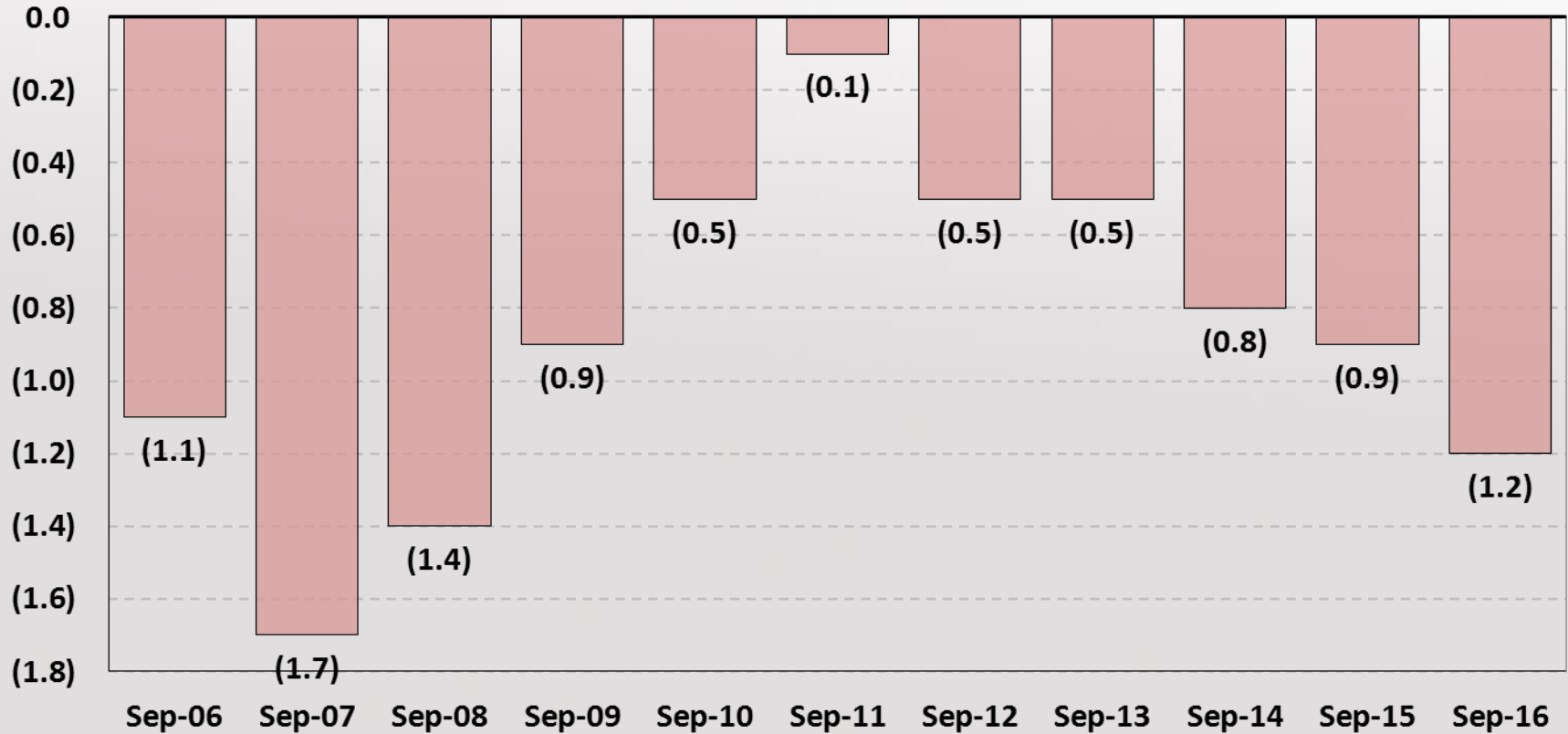


Source: Produced by the Arizona Office of Economic Opportunity in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics

Manufacturing

Over-The-Month Employment Gain/Loss

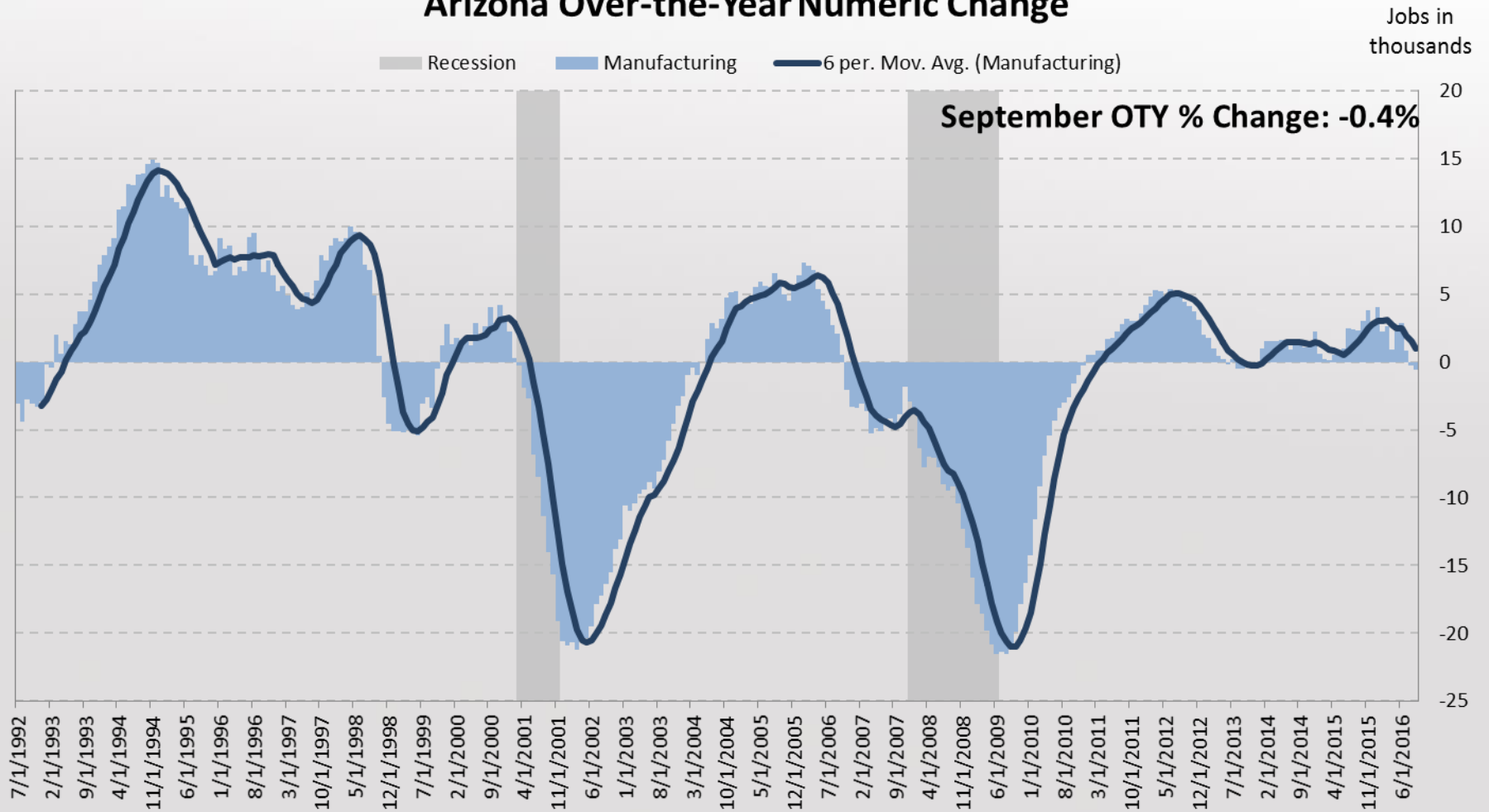
in thousands



Post-Recession Average ('10-'15): -600 Jobs or -0.4%
Historic 10-Year Average ('06-'15): -800 Jobs or -0.5%

Source: Office of Economic Opportunity in collaboration with the US Dept. of Labor's Bureau of Labor Statistics;
 Current Employment Statistics

Arizona Over-the-Year Numeric Change

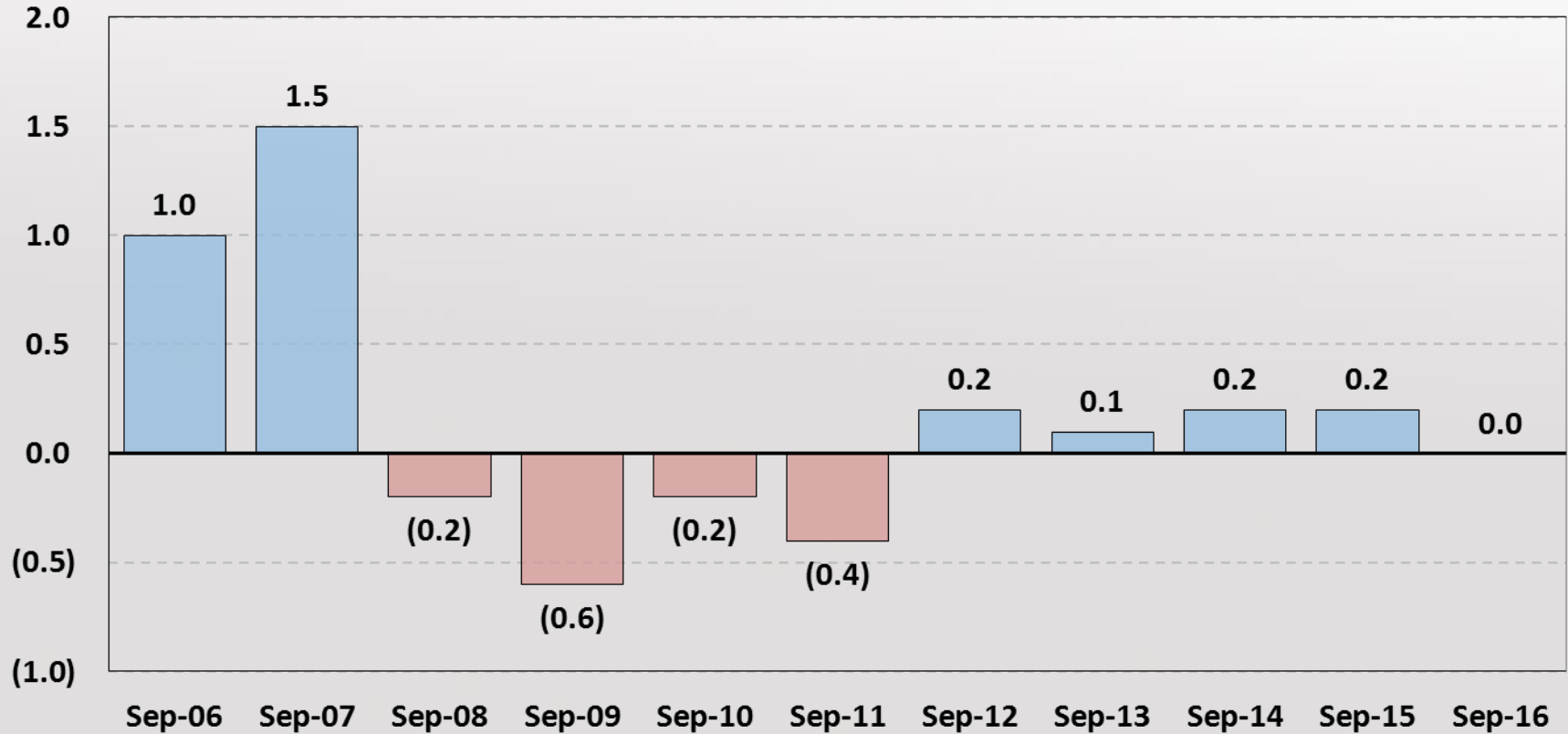


Source: Produced by the Arizona Office of Economic Opportunity in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics

Other Services

Over-The-Month Employment Gain/Loss

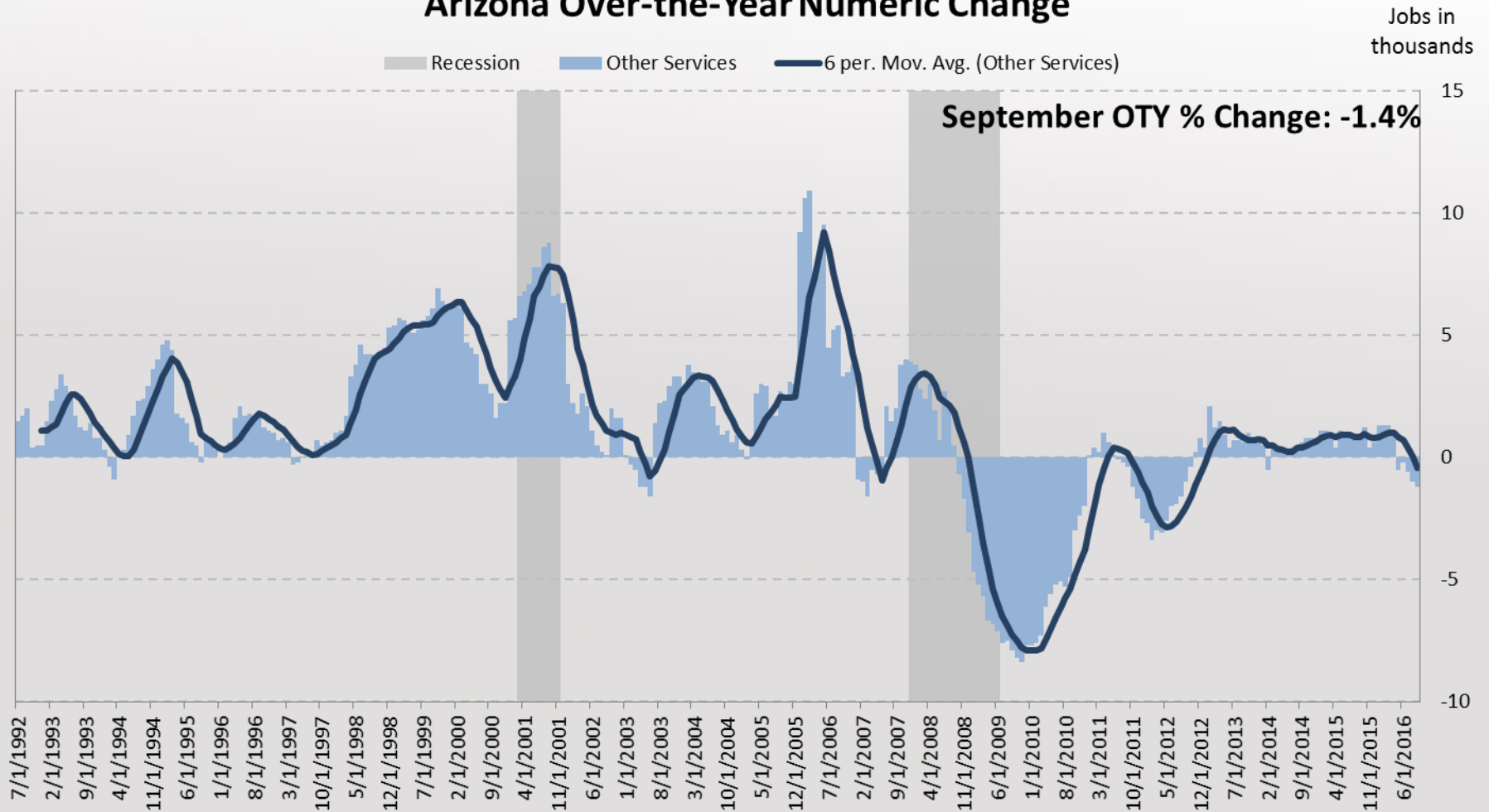
in thousands



Post-Recession Average ('10-'15): 0 Jobs or 0.0%
Historic 10-Year Average ('06-'15): 200 Jobs or 0.2%

Source: Office of Economic Opportunity in collaboration with the US Dept. of Labor's Bureau of Labor Statistics;
 Current Employment Statistics

Arizona Over-the-Year Numeric Change

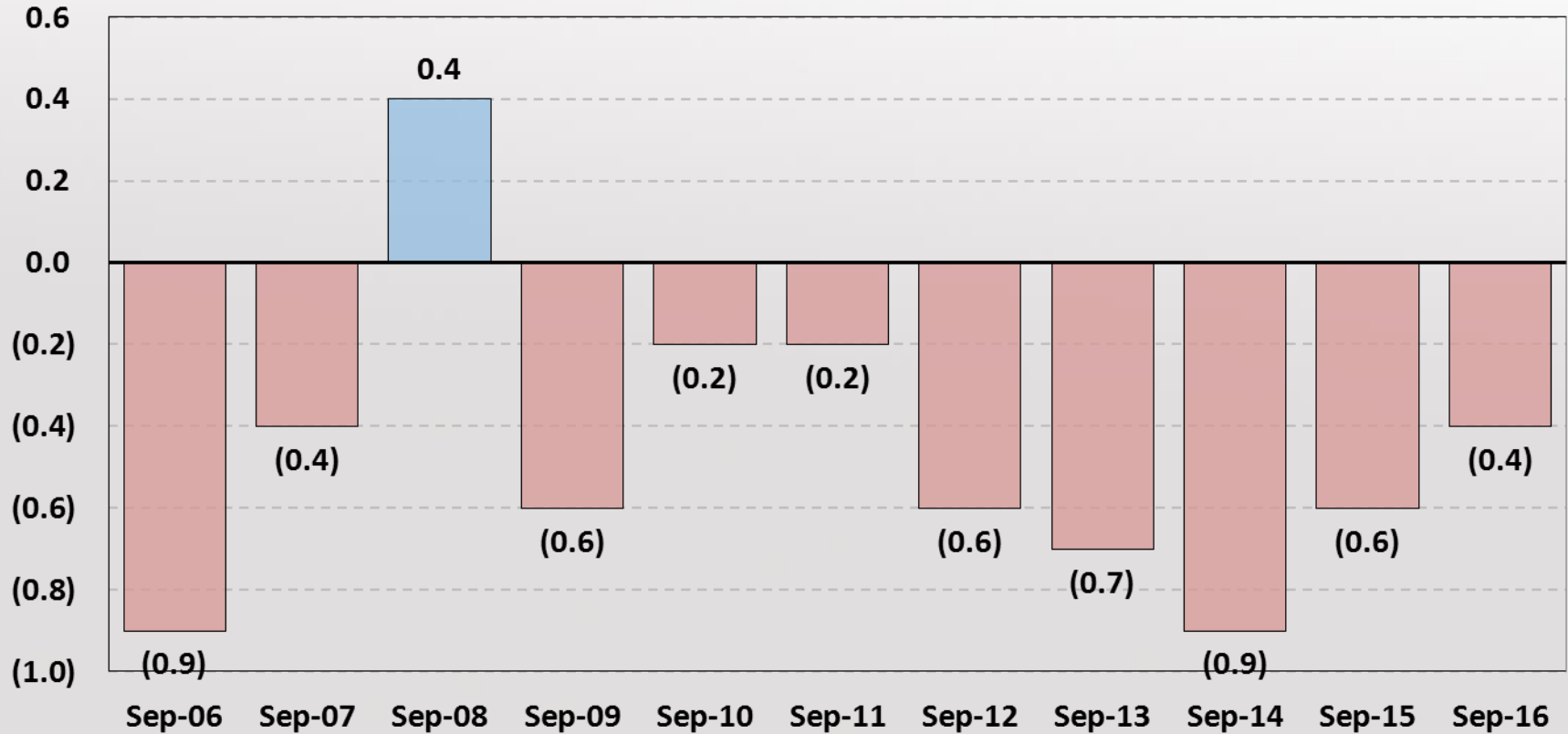


Source: Produced by the Arizona Office of Economic Opportunity in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics

Information

in thousands

Over-The-Month Employment Gain/Loss

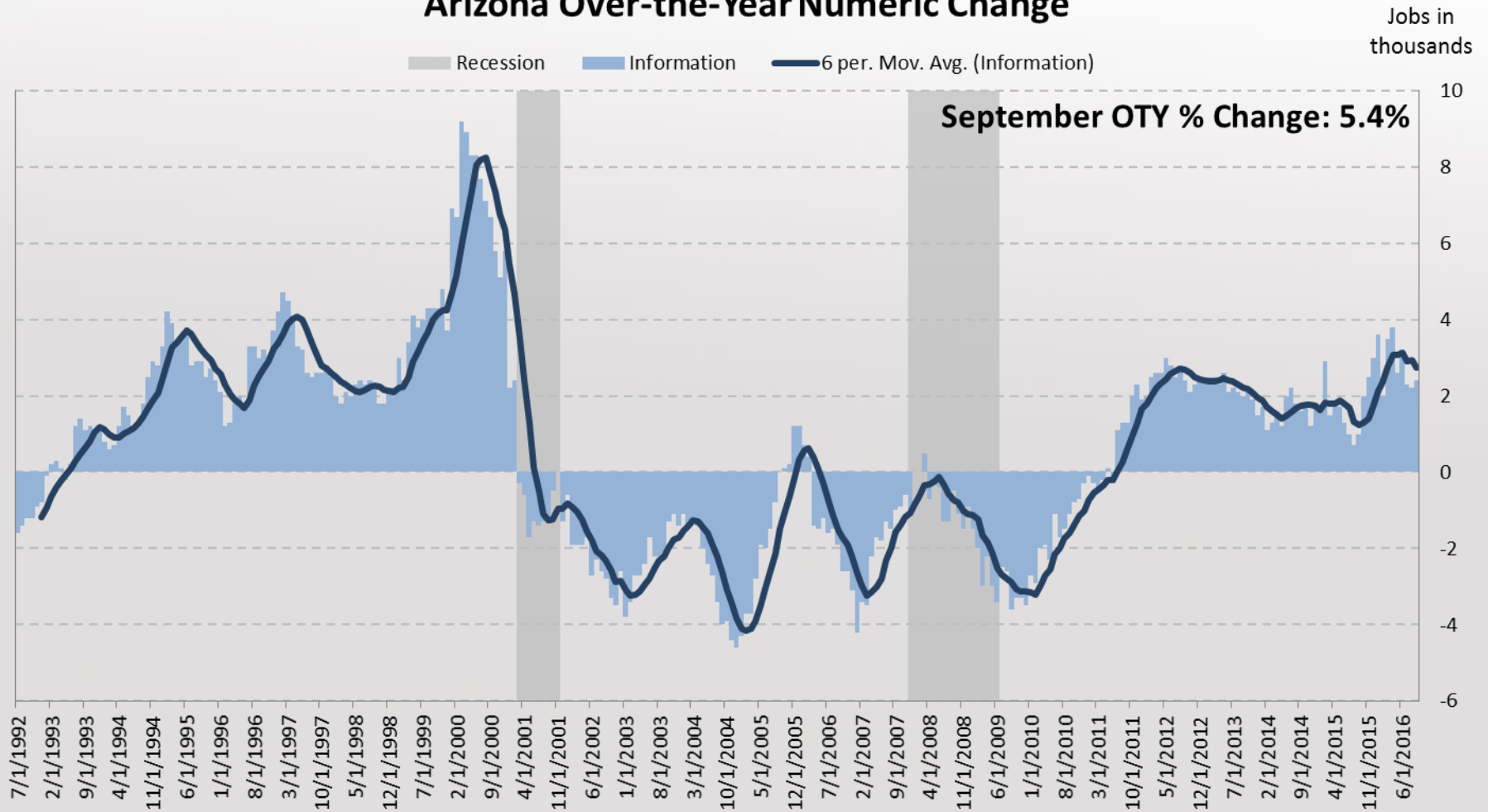


Post-Recession Average ('10-'15): -500 Jobs or -1.3%

Historic 10-Year Average ('06-'15): -500 Jobs or -1.1%

Source: Office of Economic Opportunity in collaboration with the US Dept. of Labor's Bureau of Labor Statistics;
Current Employment Statistics

Arizona Over-the-Year Numeric Change

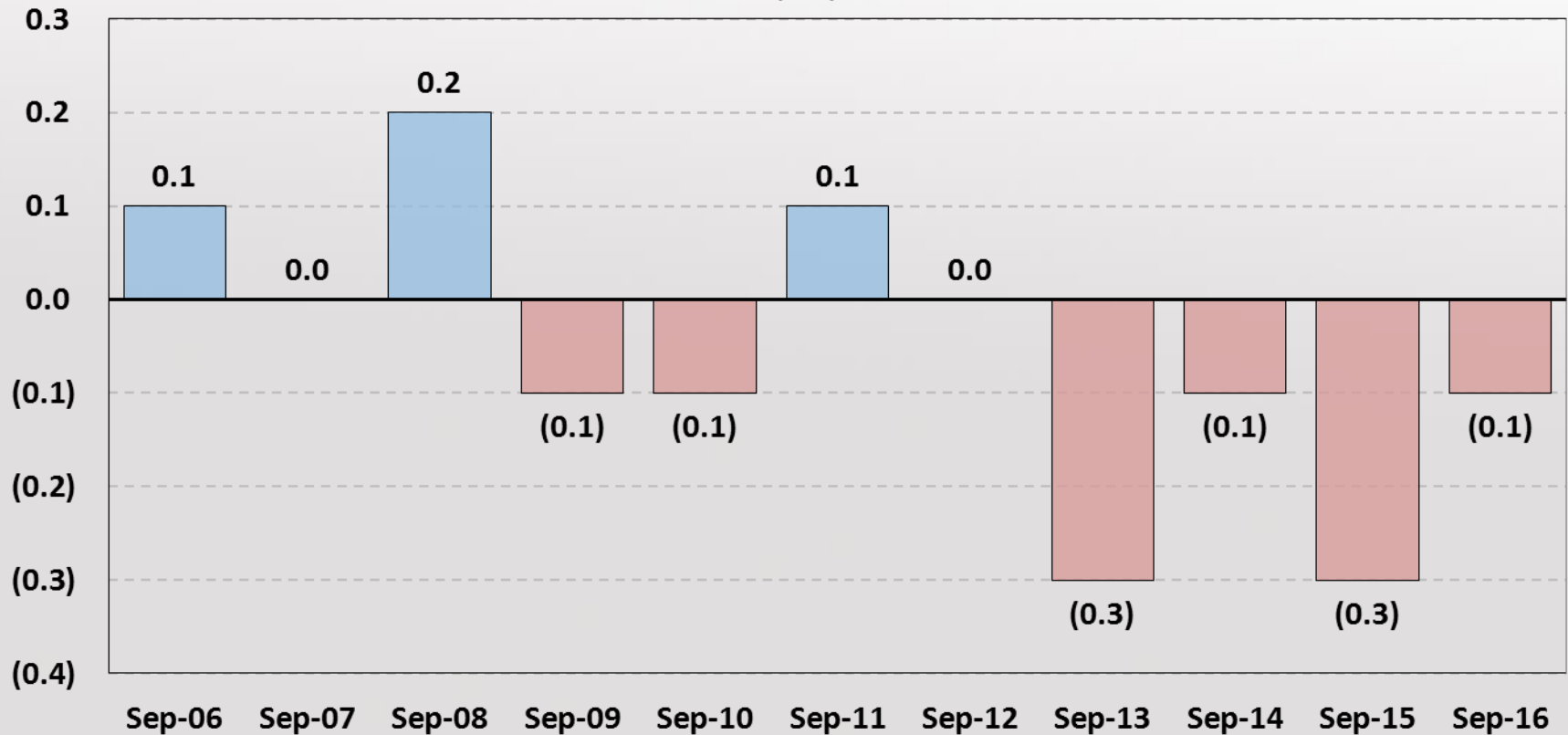


Source: Produced by the Arizona Office of Economic Opportunity in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics

Natural Resources & Mining

Over-The-Month Employment Gain/Loss

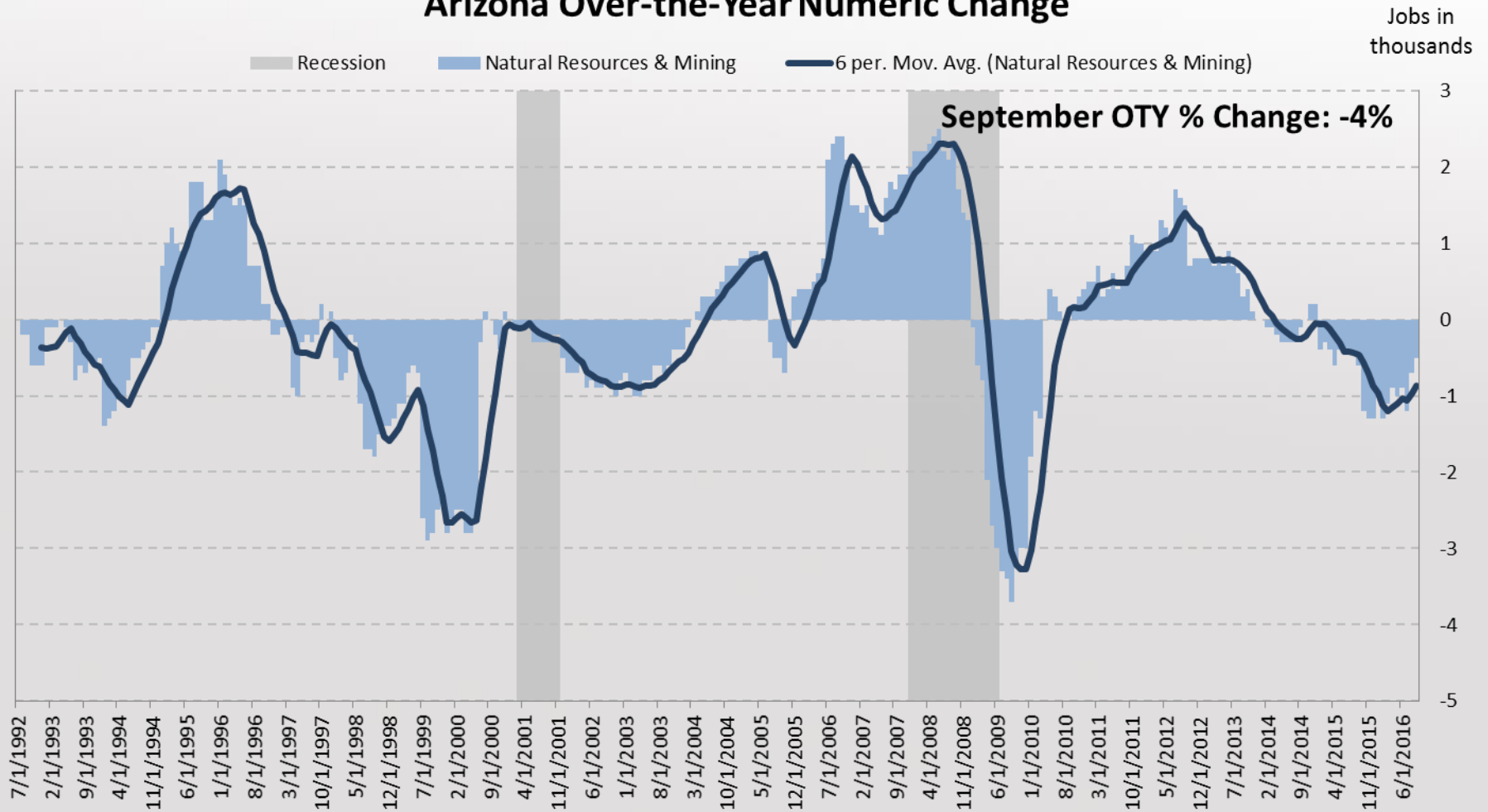
in thousands



Post-Recession Average ('10-'15): -100 Jobs or -0.9%
Historic 10-Year Average ('06-'15): -100 Jobs or -0.4%

Source: Office of Economic Opportunity in collaboration with the US Dept. of Labor's Bureau of Labor Statistics;
 Current Employment Statistics

Arizona Over-the-Year Numeric Change



Source: Produced by the Arizona Office of Economic Opportunity in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics

Report Summary

- OTM Nonfarm employment gains above post-recession average
 - Gains primarily in State Education and Local Education
- Continued steady OTY Nonfarm employment growth (61,800 jobs, 2.3%)
 - The Private Sector gained 2.8% OTY
 - Seven of eleven sectors recorded positive OTY growth
 - Six of seven metro areas recorded positive OTY growth
 - Prescott, Phoenix, Yuma, and Tucson exceeded 2.0% OTY growth (The U.S. averaged 1.7% OTY growth)
- The seasonally-adjusted unemployment rate decreased three-tenths of a percentage point OTM

Industry and Occupation Employment Projections 2014-2024

Definitions:

- **Industry Employment Projections** are based on the State or local area's past industry employment trends and are refined by a review of current economic developments that affect employment within each industry
- **Occupational Employment Projections** estimate the changes in occupational employment over time resulting from industry growth, technological changes, and other factors

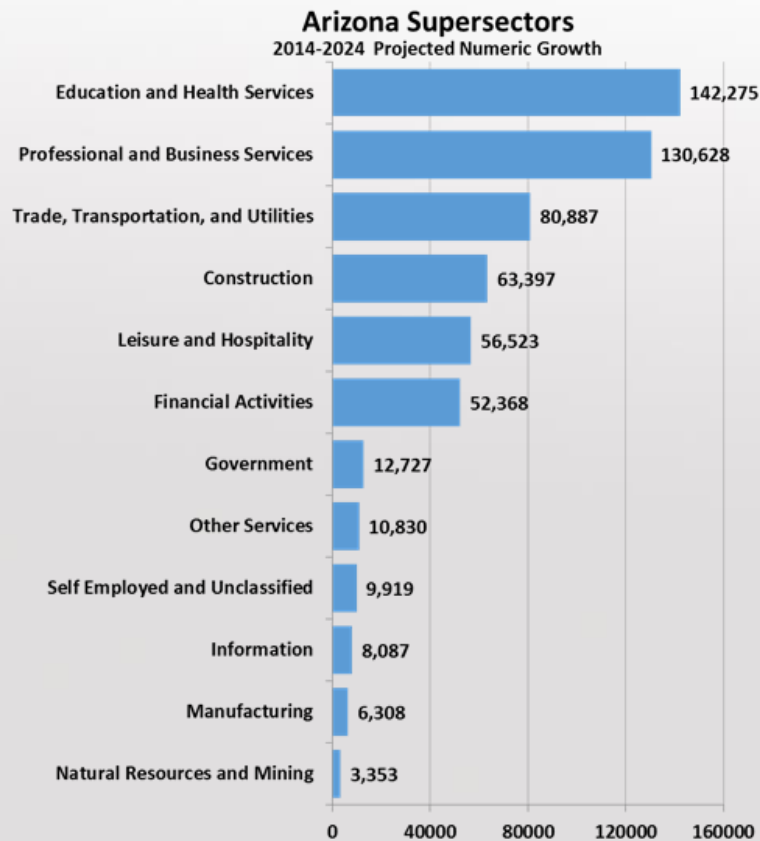
Definitions:

- State and sub-state area long-term projections cover a period of ten years
- The projections are estimated every two years to maintain currency and incorporate economic changes that occur in the State and local areas
- Preliminary employment projections are produced using various economic models
 - The methods and economic models are provided to all state Labor Market Information programs to insure consistent methodology and outcomes across the nation

Summary:

- Arizona employment is projected to increase by 577,302 jobs (1.9% annual growth) through 2024
- Arizona's population is projected to increase by 1,158,141 people (1.6% annual growth) through 2024.
- US employment is projected to increase by 9,788,900 jobs (0.6% annual growth) through 2024
- The Phoenix Metro Area (Maricopa and Pinal Counties) is projected to record 81% of the employment growth
- Employment within the Tucson Metro Area and remaining counties (Balance of State) are projected to increase by 14.4% and 13.6%, respectively
- Construction (49.9% growth), Professional and Business Services (34.0% growth), Financial Activities (28.6% growth) and Education and Health Services (25.5% growth) are all projected to grow at a faster rate than the economy as a whole

Industry Projections

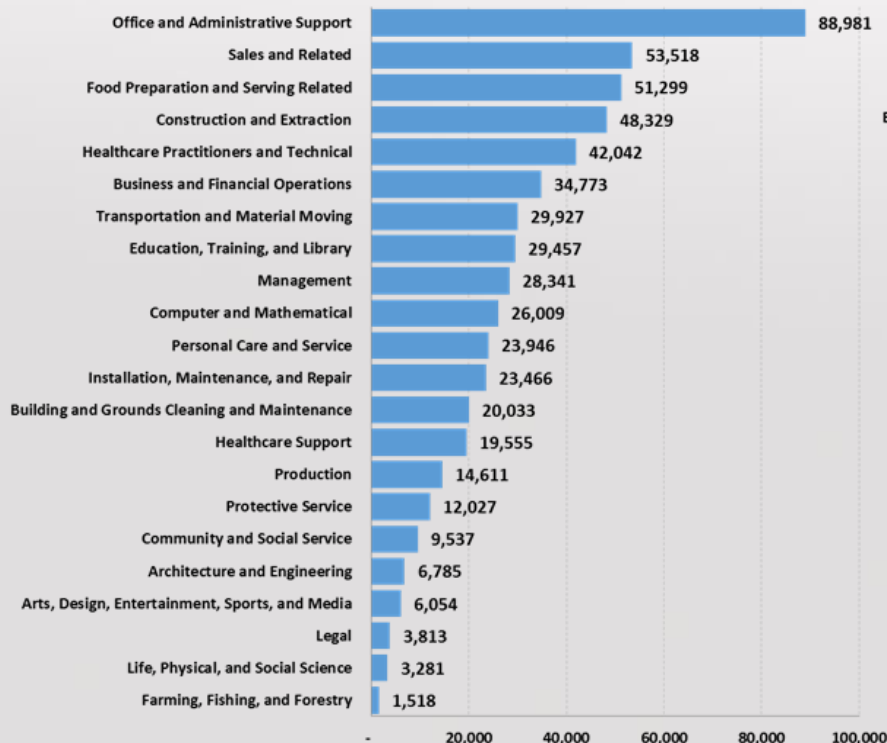


All twelve supersectors are projected to record positive employment growth over the ten-year period

Occupational Projections

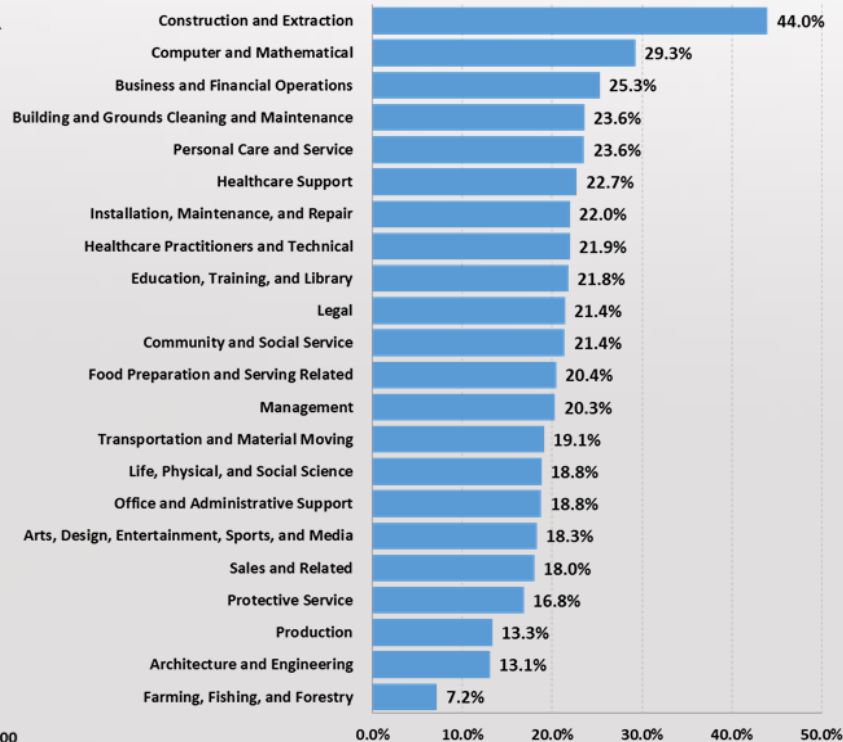
Arizona Major Occupational Groups

2014 - 2024 Total Numeric Change



Arizona Major Occupational Groups

2014 - 2024 Total Percentage Change



- Over half of Arizona's occupational job growth is projected to occur in six major occupational groups
- Occupational groups differ from industry sectors because they capture what the worker is actually doing in the job

A Note Regarding Minimum Educational Requirement Levels

- The Bureau of Labor Statistics (BLS) provides information about education and training requirements for hundreds of occupations
- Designations are assigned to occupations to assist future and current job seekers better understand the requirements of desired occupations
- Designations are consistent for all US geographic areas
- BLS assigns occupations to a designation within three categories:
 - Typical entry-level education
 - Work experience in a related occupation
 - Typical on-the-job training

A Note Regarding Minimum Educational Requirement Levels

- **Typical education needed for entry**—represents the typical education level most workers need to enter an occupation.
- The assignments for this category are the following:
 - No formal educational credential
 - High school diploma or equivalent
 - Some college, no degree
 - Postsecondary nondegree award
 - Associate's degree
 - Bachelor's degree
 - Master's degree
 - Doctoral or professional degree

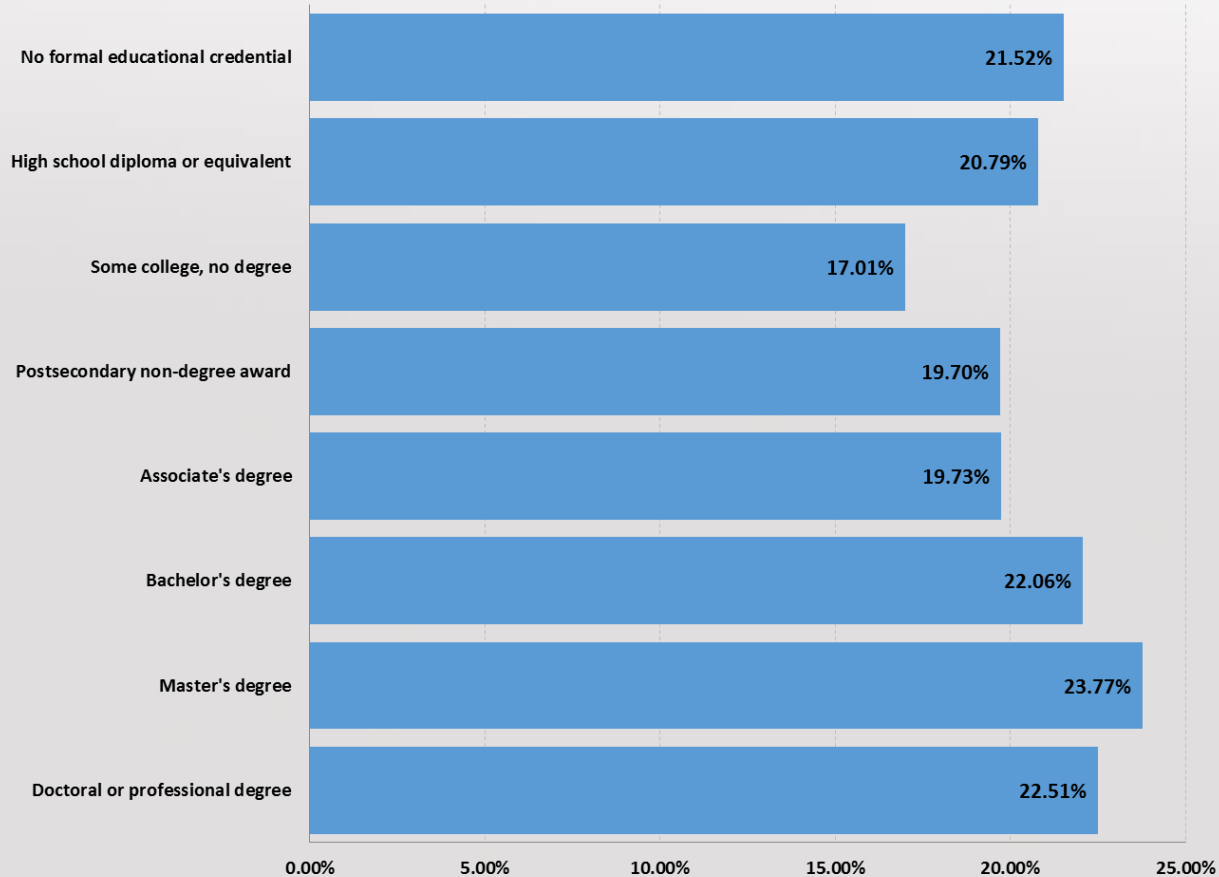
A Note Regarding Minimum Educational Requirement Levels

- **Over 94% of jobs with a minimum educational attainment level of a high school diploma or less require some sort of on the job training (short, medium, long), work experience, or apprenticeship**

Occupational Projections

Arizona Occupations by Minimum Education Requirement

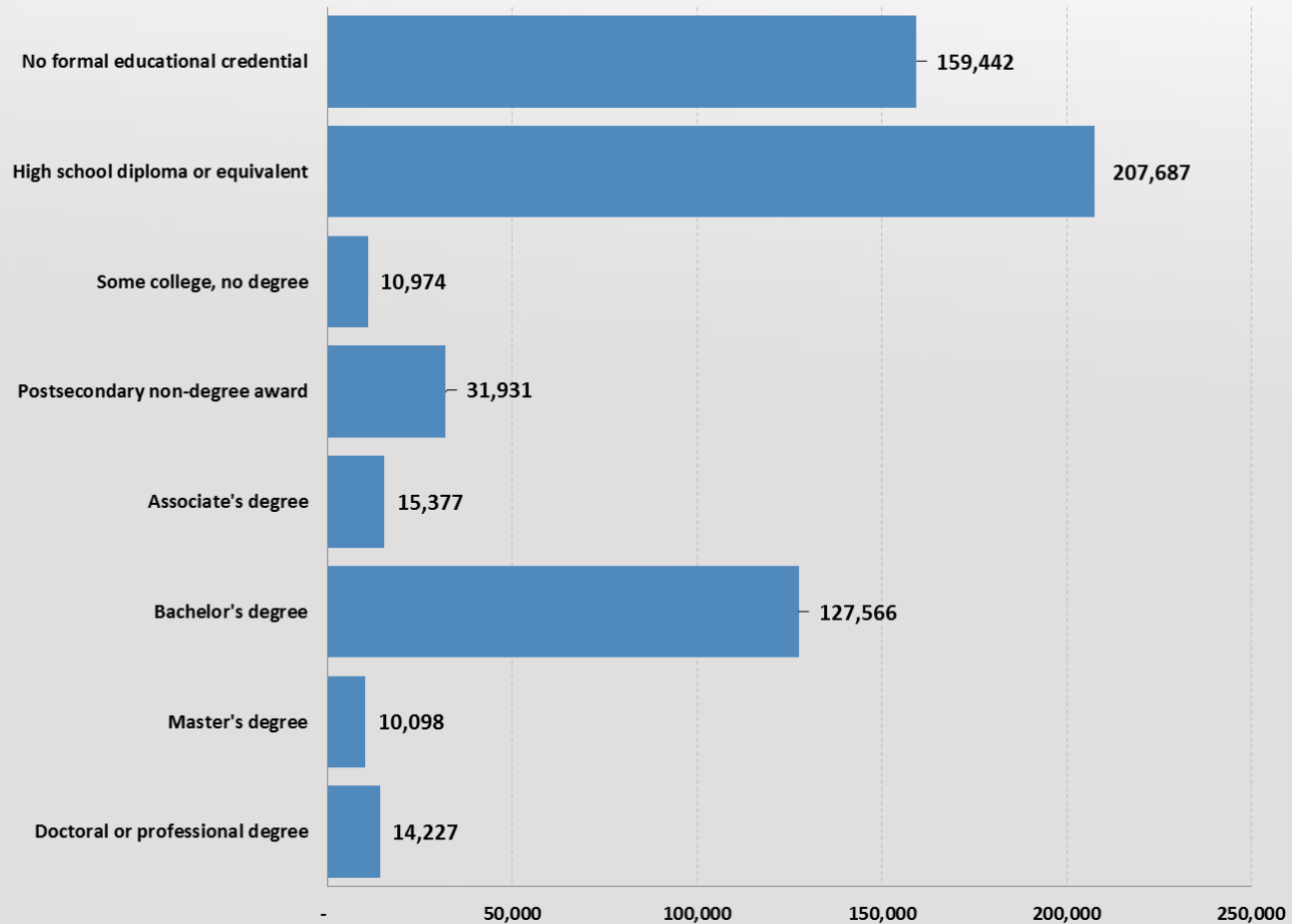
2014 - 2024 Total Percentage Change (Growth Rate)



Occupational Projections

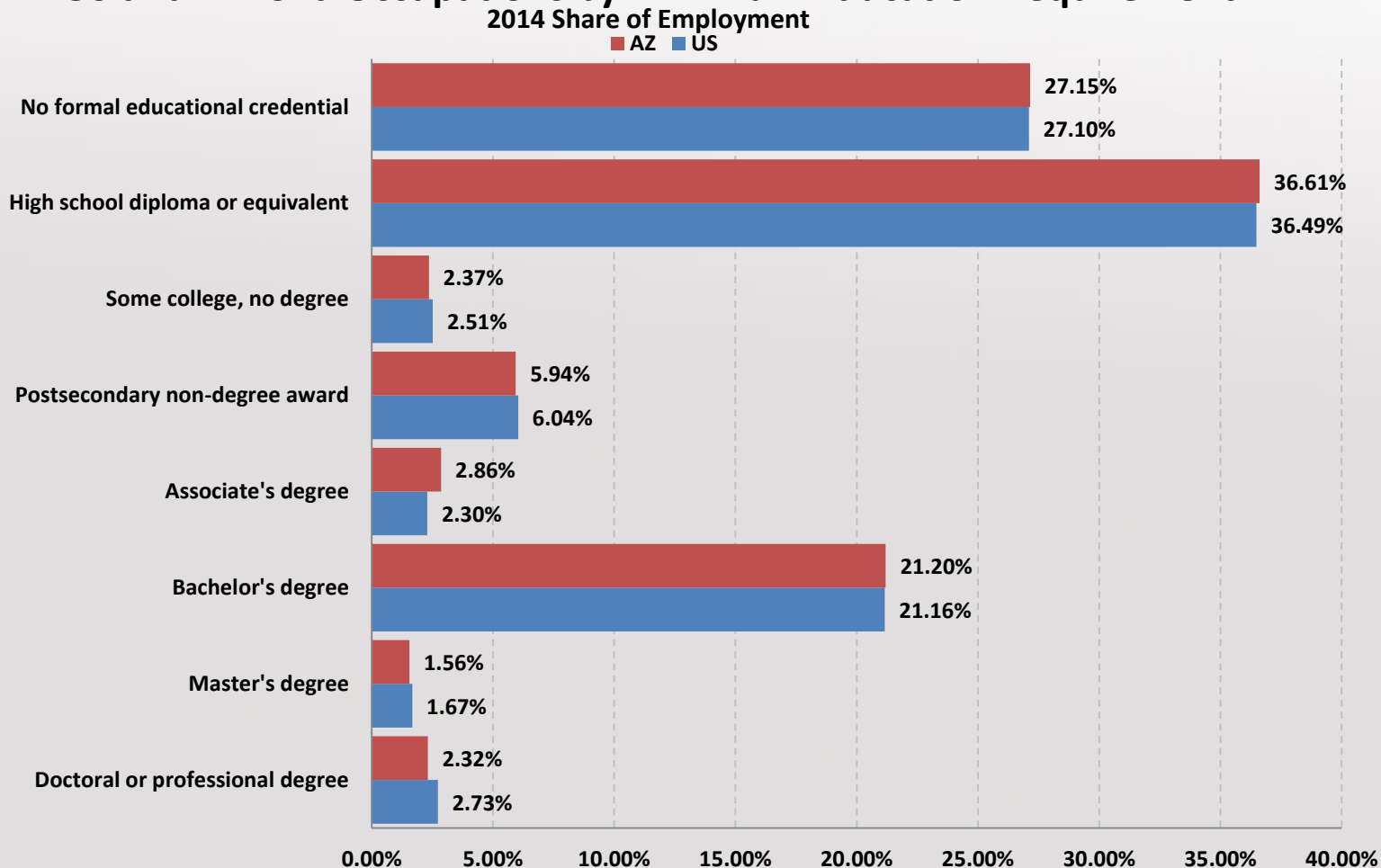
Arizona Occupations by Minimum Education Requirement

2014 - 2024 Total Numeric Change



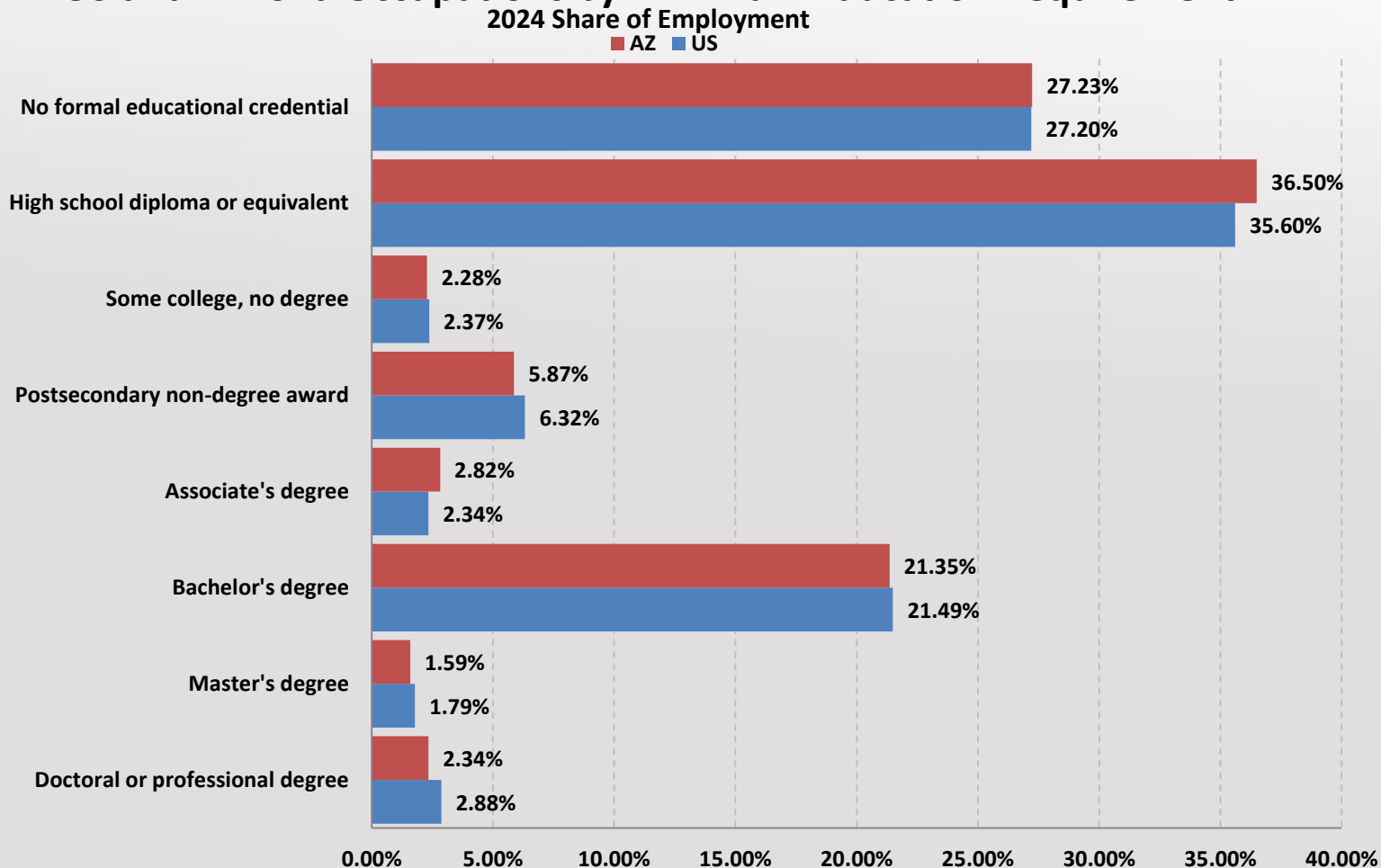
Occupational Projections

US and Arizona Occupations by Minimum Education Requirement



Occupational Projections

US and Arizona Occupations by Minimum Education Requirement



Thank You!

Any Questions?

Upcoming Release Schedule:

- **October Employment Report on November 17**
- **November Employment Report on December 15**

Industry Projections Methodology: Data Included

- Industry Projections Estimates **Include:**
 - Nonfarm employment by subsector group (3-digit NAICS)
 - Self-employed workers who work for profit or fees in their own business, profession, trade, or farm
 - Unpaid family workers who work without pay for 15 or more hours per week on a farm or in a business operated by a member of the household to whom they are related by birth or marriage
 - Private household workers employed as domestic workers whose primary activities are to maintain the household

Industry Projections Methodology: Data Included (cont.)

- Industry Projections Estimates **Exclude**:
 - Farm employment in establishments engaged in growing crops, raising animals, harvesting fish and other animals from a farm, ranch, or natural habitats

Industry Projections Methodology: Data Sources

- Principal Data Source:
 - The Quarterly Census of Employment and Wages (QCEW) data represent the universe of employment by industry and county
 - The Office of Economic Opportunity utilizes the data as reported to employment tax programs, most notably the Unemployment Insurance Tax program

Industry Projections Methodology: The Process

- Analysts follow a nationally specified methodical process to develop industry projections including:
 - Constructing a historical industry series for each industry located in the area using QCEW employment data sources
 - The final year of the historical data becomes the Base Year of the projection period
 - Processing the historical times series through BLS projections software that utilizes a variety of economic models to produce the initial Target Year projections by industry
 - Reviewing the initial projection for each industry and select the best economic model's projection based on prior historical growth rates, knowledge of the economy, and comparisons to other forecasts

Industry Projections Methodology: Economic Assumptions

- The institutional framework of the U.S. economy will not change radically
- Recent technological and scientific trends will continue
- The long-term employment patterns will continue in most industries
- Federal, state, and local government agencies are expected to operate under budgetary constraints
- No major events will occur that will significantly alter the industrial structure of the economy, the occupational staffing patterns, or the rate of long-term growth
- Population growth rates and age distributions will not differ significantly from Office of Economic Opportunity projections presently available
- Attitudes toward work, education, income, and leisure will not change significantly

Occupation Projections Methodology: Data Sources

- Occupational Staffing Patterns
 - OES survey responses are summarized by industry and matched to a NAICS code for the State and sub-state areas
 - Statewide responses or another area's responses are substituted in cases where local OES responses are not available
- Industry Employment Projections
 - Primary data source used to project changes in occupational employment

Occupation Projections Methodology:

The Process

- Analysts follow a nationally specified methodical process to develop occupation projections
 - Match the base year industry employment with the OES staffing patterns to produce occupational base year employment by industry sector
 - Apply change factors to the occupational base year employment to produce the target year staffing patterns
 - Change factors reflect projected shifts in occupational usage within particular industries
 - The BLS conducts special studies to produce the change factors
 - Match target year industry employment to the target year staffing patterns to produce occupational employment projections by industry sector
 - Sum data by occupation across all industries for the base and target year occupational estimates

Occupation Projections Methodology: The Process (cont.)

- Calculate replacement needs for each occupation
 - Replacement needs estimate the number of job openings created when workers retire or permanently leave an occupation and need to be replaced
 - The BLS develops replacement rates using occupational employment data from the Current Population Survey (CPS)
 - Calculate the difference between the base year occupational estimates and the target year projections.
 - This difference represents the new jobs resulting from industry growth and from changes in staffing patterns